

# Photography

★  
HOW AND ICE  
PHOTOGRAPHY

★  
NEW YEAR'S  
SOLUTIONS

★  
HOW TO  
GROW YOUR  
POSES  
John Hutchins

★  
U. S. ARMY  
HANDS PHO-  
GRAPHICALLY

★  
HOW TO "READ"  
NEGATIVES

★  
HOW TO  
TAKE GOOD  
MOVIES  
Part of a series  
for beginners

★



## HOW TO TAKE GOOD PICTURES

TONED PRINTS, in red and other colors, are increasing in popularity with the use of simplified materials such as "single-solution toners" and "self-toning developers." The latter process, for example, is simplicity itself, the print coming up, not in black, but in red, blue, sepia or whatever tone is desired. The picture "PIN WHEEL," above, shows a welder at work cutting a pipe with an

acetylene torch. His face, in the background, was deliberately kept out of focus. The torch furnished all the illumination, except for some weak daylight. Exposure was  $\frac{1}{2}$  second at f/11 on Agfa Plenachrome Press film. Altwater is noted for his ability to treat industrial life in a realistic yet pictorial manner. For more details, see page 90.

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## Smooth Sailing

**I**N the course of your photographic journeys, when you're up against situations where light conditions are adverse or when there's plenty of action in progress, your chances of smooth sailing are much better if you can load your camera with Agfa Superpan Press Film.

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**Agfa**  
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**FILM**

MADE IN U. S. A.



# MINICAM

THE MINIATURE CAMERA MONTHLY

EDITED BY WILL LANE, A. R. P. S.

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#### "Hutchins at Work"

Sirs:

It may interest you that Fotoshop patrons recently were treated to a preview of John Hutchins' article "Photographing the Unphotogenic" which appeared in the last issue of MINICAM.

The enclosed picture shows Mr. Hutch-



ins illustrating some of the most photogenic aspects of the lecture. After looking at the model, we said, "who wants to photograph unphotogenic people anyway."

CARL BAKAL.

Fotoshop, Inc.

New York City.

The second article by John Hutchins on "Photographing the Unphotogenic" appears on page 24.—ED.

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Authorized Edwal dealers are selected because of their integrity, their complete stock of quality merchandise and their knowledge of photography. The salesmen in authorized Edwal dealers' stores are well informed on all phases of fine grain developing and can give you valuable suggestions on how to make better pictures.

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*The ever increasing popularity of Edwal products is evidence of the sound research, upon which Edwal leadership is based.*

## THE EDWAL LABORATORIES, INC.

Dept. 1-M, 732 Federal Street, Chicago, Illinois



### "Two Years Later"

Sir:

In March 1939 MINICAM you published my High Key Print, "Gateways of the Soul." This

title was inspired by the expression of the child's eyes. (See left hand picture, above)

The subject of that picture is now two and a half years old and I tried to get a matching

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shot to the first picture. That pensive expression. With a good deal of patience I achieved my goal and thought you might be interested.

DR. A. ROUBICEK.

Cleveland, Ohio.

### "Impossible" Double Exposure

THE following three letters tell an interesting story.—Ed.

Sirs:

It is supposed to be impossible to make a double exposure with the Automatic Rolleiflex, yet I have done it, accidentally, in my own studio. It's a real puzzle to me.

ALAJOS SCHUSZLER.

Sirs:

We have seen several other such results. . . . The double exposure can occur only at the very beginning of the film, and that is caused by not turning the handle back until it automatically locks. When you load the film in the camera, you turn the handle forward in one direction until it locks. Once it locks you're supposed to turn the handle backward until it locks again at the top of the camera next to the number indicator. Sometimes it takes one and a quarter to one and a half turns backward before it locks the second time.

BURLEIGH BROOKS, INC.

New York City.

Sirs:

False Alarm, doggone it! My great discovery about the possibility of a double exposure with the Automatic Rolleiflex is ancient history after all.

Rye Beach, New Hampshire.

ALAJOS SCHUSZLER.



"We're answering your ad for a black and white photographer."



## VICTOR

### Photographic Lights

**I**NDOOR pictures are so easy to take when you have a few inexpensive VICTOR Reflectors to increase the effectiveness of your flash or flood lamps. They can well be your *best* pictures, because your best subjects are indoors, near and dear to you.

Prices of VICTOR Lights start at \$1.00. The Twin Stand Unit shown above is only \$4.95. Others are priced proportionately low.

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PANCHROMATIC  
MAKE-UP

### "Pictures Across the Sea"

Sirs:

Would you do me a great favor please? I'll tell you now what it is.

I have been very keen to pay a visit to the U. S., but the war has put a stop to that, so I want the next best thing—pictures. Pictures of streets, views, etc., above all those of New York so that I can get an idea of the things I missed.

If you could print this note I feel certain that your readers would send me a print or two. Should they want any pictures I would be only too glad to send any I can possibly photograph. Cameras are not very much favored in the open here!

I am a keen MINICAM user, my job being a Contax II with an f/2.8 Tessar. For enlarging I use an Exact. The main disadvantage is that I have very little time now to do any really serious work, being a telephone engineer. Still I'll do my best to fulfill any request.

Yours sincerely,

V. S. KLEIN.

40 Norfolk Rd.  
Brighton,  
Sussex, England.

### "Mixed Doubles"

Sirs:

This started out to be a regular "couple" snapshot, but as I shot, Dorothy slipped and fell backwards. This is what I got instead.

JOHN VAN.  
Chicago, Ill.



### Reversed Lightning

Sirs:

After studying the photo of the lightning's blitzkrieg in last month's "In Focus" department I arrived at the conclusion that the shot was reproduced upside-down. The lake, as you have it, has a bulge on the horizon line. The photog said that a bolt hit the lake in front of him, but I didn't see any streak that verifies the statement unless the photo is turned upside-down.

NORMAN JUSTICE.

520 Tunbridge Rd.  
Baltimore, Maryland.

Sirs:

That storm described by Frank Bargus must have been a storm! The lightning jumped out of the lake.

Or is the picture upside down?

C. R. PROCTOR.

Lewiston, Maine.

Sirs:

... The picture is upside down.  
Did you notice?

FRED E. WIEDEMAN.

Helena, Montana.



Readers Justice, Proctor and Wiedeman are right. The cut was reversed. It should have been reproduced as shown above.—Ed.

#### "Machinist Wanted"

Sirs:

I think the idea of attaching a camera to a pair of binoculars (Dec. MINICAM, p. 72) is wonderful, but suppose that you don't have a friend who is an expert machinist? I would like very much to have such an attachment for my cameras, and do you think that you could persuade some kind manufacturer to make such devices? Or perhaps you could persuade some person working privately to make one on special order. Do you think that it is possible?

Well, here's hoping.  
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Jacksonville, Fla.

DON HOWELL.



"I can't understand it. He says most of the pictures he's taken up here look like hell!"

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\*Prices slightly higher on Pacific Coast.



## Pictures Wanted

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Many readers would like to use their camera hobby and a few minutes' spare time to earn from \$3 to \$15 or more—and this company is ready to pay that amount for pictures we can use in our house magazine, "The Court House Crier." If you carry such announcements for readers, this is what we want:

Single shots or a series of story-telling photos like *Life* and other picture magazines on subjects involving the COUNTY REORDERING OFFICERS, such as register of deeds, county clerk, recorder, court clerk, etc. Action pictures in sharp focus and of good contrast on glossy paper. 5 x 7 size is preferred, but contacts of smaller size are accepted. Should be submitted with written consent of officer appearing in picture.

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This is not a contest. We are buying pictures all the time. Interesting photos of printable quality on the right subjects are rarely turned down.

F. B. TOMPKINS,  
Editor.

Syracuse, N. Y.

"Fire?"

Sirs:

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Aside from an undying hatred for the mailing crew I find your magazine very much to my taste. I am especially pleased to find that you do not indulge in the usual failing of making the magazine into a picture gallery. Stick to your policy of giving we poor, sinned-against beginners the hows and the whys to say nothing of the wherefores of picture taking and making.

I find that the "Being Critical" department teaches me more about composition than any other article or feature. Why not enlarge it to include more than just two or three pictures a month?

EDWARD CHARLAP.

Brooklyn, N. Y.

The "Being Critical" department, beginning this month is increased to two pages. It's on page 68.—ED.

America's new thrill in enlarger value!

## DeJUR "Versatile" ENLARGER

The news travels fast! In hundreds of dark-rooms photographic-America thrills to an entirely new conception of enlarging scope and enlarger value. No matter what demands are made of it, the DeJur "Versatile" performs brilliantly. Negative coverage up to  $2\frac{1}{4} \times 3\frac{1}{4}$ ". Cool, light-tight "Aero-Tech" construction! Negative-distortion control. Dual-controls for right or left hand operation. 5" plano-convex, optically matched condensers. Uses any lens because of the interchangeable lens-board. Rock-steady projection. Micrometer calibrated scales. Heat absorbing filter. Extremely beautiful modern design and finish. In short, the "Versatile" is the enlarger you've dreamed of, but never expected to see at only \$79.50.



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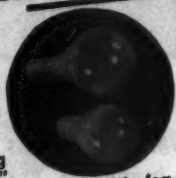
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**SUPERFLASH and**  
**SUPERFLOOD**

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# JANUARY'S THE MONTH FOR SNOW SCENES

## HOW TO TAKE WINTER PICTURES

WRITTEN AND ILLUSTRATED BY EDWARD K. ALNIUS, F. R. P. S.

**W**HEN SNOW flies, pictorialists and snapshotters alike sally forth to take advantage of the sparkle of sunlight on the world's winter dress. They don't delay, but shoot while the snow is fresh.

The details to be considered are choice of subject, arrangement or composition, camera position, and, last but not least, the height and direction of the sun. Technical questions include choice of film, filters, exposure, developing, printing and toning, if desired.

Light areas should dominate a winter scene. Dark parts must be handled so that they do not comprise too much of the picture space. Too many dark masses of buildings, tree trunks, etc., deprive a picture of its wintry appearance. In other words, keep the winter scene in high-key.

In composing, or arranging the parts of a picture, work to emphasize a center of interest. A mass of snow-covered trees may at first glance appear pleasing.

Much better might be a single tree placed in the foreground so as to stand out; the rest of the space composed so that there will be a pleasing balance around the dominant tree.

The viewpoint or the spot from where the picture should be taken relative to the sun, is dependent on definite conditions. Sparkle and snow texture details are best obtained when the sun is in front of the camera and low in the sky. But when the sun faces directly into the lens, flare results. Not even a lens shade is of help in such a case. The solution is to have a tree in front, so that the camera is shaded from the sun. (See Figs. 1 and 3).

Back lighting should not be attempted when photographing heavy, snow-laden trees. The brilliant outlines of the snowy branches in this case, are pleasing (Fig. 3), but the white snow will reproduce black in the shadows. And the blue sky would be rendered too light despite the use of a filter. The sun will be to the best advantage when on the side and

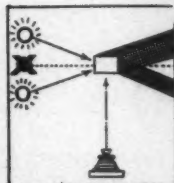
slightly to the back or front, rather than at ninety degrees to the camera where shadows would be thrown horizontally across the composition. (See diagram, Fig. 7).

Avoid frontal illumination as it is flat and uninteresting. Also avoid filming unless the sun is out. Cloudy, shadowless weather produces muddy appearing photographs.

Panchromatic film is recommended. Use Panatomic X or Finopan when the subject is lacking in contrast. If the subject is of average or high contrast, use the faster, softer emulsions such as Super XX, Ultraspeed or Superpan Press.

● **EXPOSURE IS OFTEN** a problem for snow scenes as the brightness range on a sunny day is extremely great. Film latitude is not sufficient to register the full range of a snow scene. The brightness in

For best composition in snow pictures, have the sun at one side. It should not be at a right angle, but slightly to the front or rear of the imaginary 90 degree line. **FIG. 7**



the reflecting highlights of the snow, is often nearly a thousand times more than in the shadow parts of trees, stones, buildings, and other dark objects. Therefore, it is impossible to expose so that details will register in both highlights and shadows on the film. Even more is lost, too, in the print due to the appreciably shorter range of the paper.

For a high-key landscape, that is light in tone, expose slightly more than normal. For example, if your exposure meter or exposure table calls for  $f/8$ , shoot at  $\frac{1}{2}$  stop wider, or about  $f6.3$ . In a high-key picture, there may be a few small, dark

**ICE-FREE** brooks racing through parks and countryside photograph dark against new fallen snow. The long, forward-stretching shadows reveal that the camera faced the sun. The camera was moved until a tree or branch kept the sun out of the lens. **FIG. 1**





**SNOW ACTS** as a reflector and facilitates otherwise impossible night shots. This famous picture of Fifth Avenue skyscrapers from New York Central Park has been widely exhibited. A good time to take night shots is at dusk when the sky still retains some daylight, or when the big city itself lights up the sky. This shot was taken in January, about 8 P. M. on Verichrome film, exposure 3 minutes,  $f/45$ . Using the camera on a tripod and one of the fast Panchromatic films, the average exposure for a picture of this type is about 5 seconds at  $f/11$ . **FIG. 2**





**BACKLIGHTING** creates a brilliant outline, but leaves the snow unpleasantly dark and underexposed. DATA: Super XX film, 1/25 seconds, f11, K2 (yellow) filter. FIG. 3

**AN INTERESTING** composition is obtained by emphasizing the foreground tree. FIG. 4



objects in which blocked up shadows are permissible.

A low-key picture, dark in tone, calls for slightly *less* than normal exposure. For example, if f8 would be normal, decrease exposure about 1/2 stop, to f9.

● **A FILTER IS** necessary. The shadows in the snow texture are bluish, therefore, a snappier result will be obtained by using a filter. The condition at hand should decide which one of the following filters should be used: yellow (K-1 or K-2), yellow-green (X-1), or red (A). For the purpose of getting snow texture, a yellow filter is sufficient.

The contrast between clouds and blue sky will be greater with a red filter. A red filter will, perhaps, give too black a sky and the picture may be "too heavy." The red filter will render green nearly black. Thus, distant green woods will be too dark and the perspective is lost. In this case a yellow green will be the best to use, and will render green trees light; it will show distance for far away greens and good perspective.

For an overcast sky or slight fog, a filter is of little use.

Exercise care not to get too strong a sky and cloud effect for a delicate high-key snow scene. In summing it up, always use a filter for snow pictures, but use the red one sparingly.

● **FINE GRAIN** developer should be used for snow scene negatives, even for larger than miniatures in order to secure



**CLOUDY DAYS** create a dull and monotonous grey. FIG. 5



the sharpest possible detail which is an added attraction in this type of photograph. Do not over-develop.

For correct printing of winter scenes, buff stock and matte surfaces should *not* be used. Instead use a glossy, rough surface such as one of the "Crystal" finishes. These add brilliancy to the snow. Then, too, the black of these glossy papers is five times darker than the black of matte-surfaced papers. The best selection is glossy or semi-glossy white.

● **SNOW PICTURES** often are greatly enhanced by toning them blue. A slight bluish tone is better than either a too-brilliant blue or plain black. The recently introduced developer-toners or color developers and the popular single-solution toners provide easy ways of adding this color. Either method offers a wide range of colors and considerable color control.

With the developer-toners it is possible to color-develop the print to the desired

tone and then complete the development in standard M-Q developer to strengthen the image without intensifying the color.

The inside front cover is an example of a toned print, in which red was used because it suited the subject matter. For a description of the method used to make this print, see page 90.

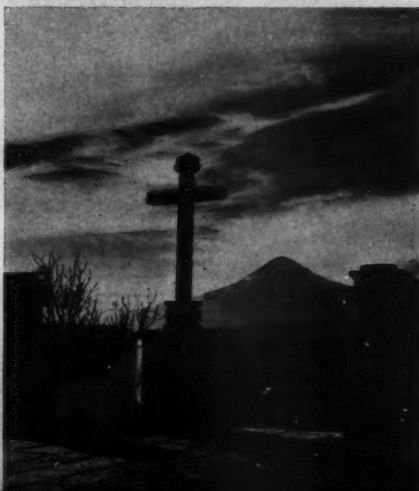
● **AMONG THE developer-toners and single-solution toners are:**

*F-R Develochrome*, made by Fink-Roselieve Co., Inc., 109 W. 64th St., New York City; *Gem Kolor-Chrome*, made by Weimet Co., 303 Fifth Ave., New York City; *Von-L Color Developers*, made by Mon-Blanc Photo Chemical Laboratories, Fort Wayne, Ind.; *Unibel Developer-Toner*, made by Unisol Laboratories, 2727 Jackson Ave., Long Island City, N. Y.; *Mansfield Single Solution Color Toners*, made by Mansfield Photo Research Laboratories, 701 S. LaSalle St., Chicago, Ill.; and the *Tabloid Toners* made by Burroughs, Wellcome & Co., London, and distributed in the U. S. by George Murphy, Inc., 57 East 9th St., New York, N. Y.

WHEN THE sun comes out, the picture springs to life. Compare with the same scene on the previous page. Both pictures were taken from the same camera position with and without bright sunlight. DATA: Super XX film, 1/5th second, red filter, Speed Graphic Camera, Ektar lens.

FIG. 6





IN THE PICTURE below, the cross' silhouette and distant volcano are interesting elements, but it all seems remote, empty and lifeless. The addition of the two Mexican boys (above) adds the interest of human beings and brings the composition to life. DATA: Taken at 4 p. m. at Cholula, Mexico. Rolleiflex, orange filter, *f*11, 1/100, Agfa Superpan Supreme film.

FIG. 1

PEOPLE



THE MAN and boy put the interest of human beings in what otherwise would be an uninteresting record of a deserted street. FIG. 2

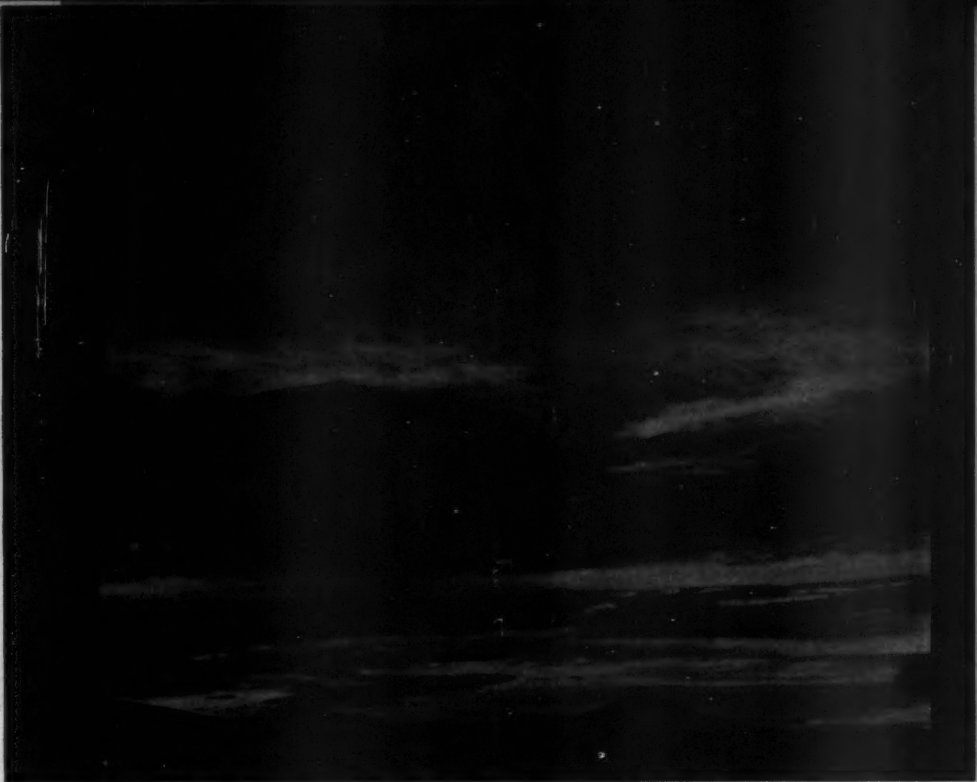
**N**O GREAT story ever was written without including a great character.

In pictures of landscapes, the addition of one or more human figures in the foreground helps to frame the composition and give it character or meaning. The use

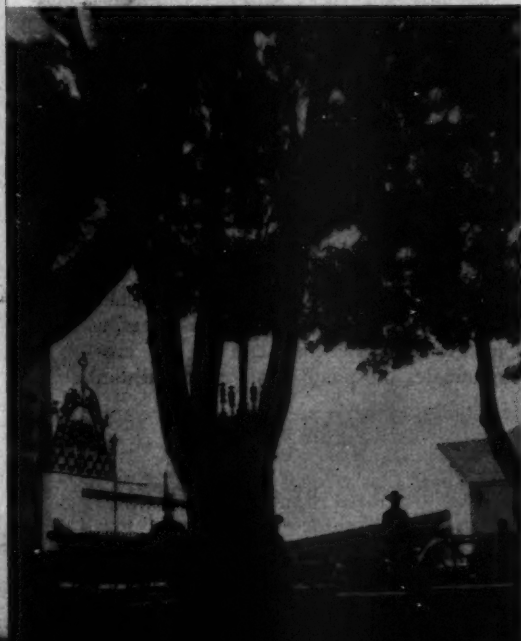
of tiny figures on a distant road, hill or beach, give the eye a standard of comparison.

Both the foreground and the distant material are interesting in some scenes, as in Fig. 1. The silhouette of the cross dominates the picture and yet the distant

**IN PICTURES** HOW AND WHEN TO USE HUMAN INTEREST  
WRITTEN AND ILLUSTRATED BY B. G. SILBERSTEIN



**"SUNRISE OVER POPOCATEPETL."** The impression of vastness and space is given by the terraced clouds which seem to be retreating toward the distant mountain peaks. Human beings in this picture would only detract from it. DATA: Taken at Cuernavaca, Mexico, 6 a. m., Rolleiflex, orange filter, Superpan Supreme,  $f/22$ ,  $1/5$  second. FIG. 3



snow-capped volcano is equally as important to the story of the picture. I took this shot with and without the two Mexican boys, and there is no comparison in the pictorial quality of the two. Without the boys, your eye vacillates between the cross and the volcano whereas the boys immediately become the center of interest and serve to tie the cross and the volcano into a unified composition.

Do not imagine that figures always add to pictures. Study Fig. 3. Can you visualize where figures might be introduced in the picture?

A TYPICAL scene in which human activity is an integral part. DATA: Taken at Taxco, Mexico, 4 p. m., Superpan Supreme, yellow filter and Duto soft focus screen,  $1/100$ ,  $f/4$ . FIG. 4

Note that in Fig. 3, "Sunrise over Popo," the entire force of the landscape comes from the low silhouette of the Mexican volcanoes and the lovely touches of the rising sun on the clouds. The only place

in which a figure could be introduced would be on the foreground railing. But inclusion of such a figure would only detract from the emotion inspired by the grandeur of the distant landscape.

STREET SCENES always can use the added fillip of human activity. This one is a study in white and dark, the peon's white suit setting him off perfectly. His activity contrasts with the afternoon sun slanting off the flying buttress. DATA: Taken in Taxco, Mexico, 5 p. m., Superpan Supreme, yellow filter,  $f/9$ ,  $1/100$  sec. FIG. 5





# A BASIC PROBLEM IN LIGHTING

EXPERIMENTING WITH SUBJECTS IN AND OUT OF WATER REVEALS BEST WAY TO ILLUMINATE THEM

BY LLOYD E. VARDEN, A. R. P. S.

SOMETIMES the apparently simple photographic jobs are the ones that offer the most difficulty. One problem that everyone meets from time to time is the photography of water and objects in water.

Two distinct problems are involved. First, *photographing water* itself to show the best surface separation and qualities characteristically depicting fluidity. The second, the *photography of objects in water* where maximum detail and contrast in the water-surrounded subjects is of prime importance.

To solve these two lighting problems, two bottles were set upon a glass plate. One bottle was partially filled with water. The other was filled to the top with water and contained a number of glass marbles to act as a subject-in-water.

The first lighting tried resulted in Fig. 1 and "looked" to the eye to be quite adequate. Practically all of the illumination was directed onto the light background and the photograph that resulted somewhat resembled a silhouette. This backlighting gave good separation to the water in the partially filled bottle but the marbles in the second bottle were devoid of detail. This light is No. 1 in Fig. 5.

The next lighting was designed to give more light in this region. Fig. 2 shows the result of directing considerable frontal light onto the two bottles in addition to the backlighting. There is an improvement in the rendering of the marbles but not nearly enough. However, to the eye the detail was very evident and casually one would never have concluded that the lighting was not suitable. This light is No. 2 in Fig. 5.

The set-up had purposely been arranged upon a glass plate in order to permit light-

ing from beneath. Fig. 3 shows the result of placing one No. 1 photoflood in reflector under the two bottles and to the right, giving the marbles the maximum benefit of the added light. In this case the rendition of the marbles is much improved. The detail and contrast are both better than before. However, the top portions are still lacking in image brightness. You will also note in this case that a bad white glare spot has developed at the surface of the water in the left bottle. No. 3 light in Fig. 5 is this source.

To complement the light added beneath the bottles a spotlight was directed from above onto the top of the marbles. Naturally, some of the light from the spot spilled over into the area of the left bottle, upsetting the lighting somewhat. However, the rendering of the marbles is now about all that one could expect. The spotlight No. 4 in Fig. 5 is this final source.

These simple experiments establish that:

- (1) The best rendering of water in a vessel is not obtained by a lighting which is suitable for the photography of objects in the water.
- (2) On the contrary, a very simple backlighting (with perhaps a small amount of frontal lighting) is all that is required to effectively photograph liquids alone.
- (3) To properly light objects immersed in water, though, demands a great amount of light—much more than appearances would indicate.

• KEY to the lighting diagram (Fig. 5) is as follows:

For the first illustration (Fig. 1) use light No. 1. For the second illustration (Fig. 2) use lights No. 1 and No. 2. For the third photograph use lights No. 1, No. 2 and No. 3. For Fig. 4, use all four lights





AT FIRST, the background receives almost all the light. The water (in bottle on left) is fairly well lighted; the marbles (in bottle on right) are almost in silhouette. **FIG. 1**

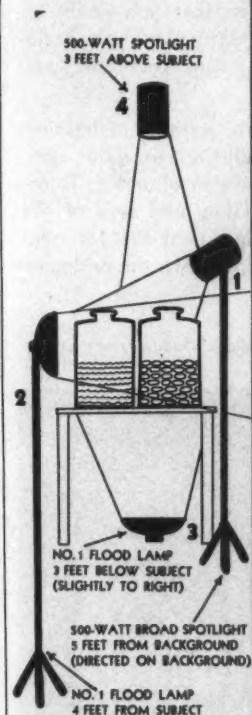


FRONTAL LIGHTING added in this picture fails to raise image brightness of marbles sufficiently, yet is too intense to preserve characteristic qualities of water alone. **FIG. 2**



LIGHT BENEATH glass plate on which bottles rest illuminates lower marbles sufficiently. Note the glare now present on top surface of water in bottle on left. **FIG. 3**

# LIGHTING DIAGRAM FOR FIG. 4



LIGHTING DIAGRAM for the four photographs shown on this page. **FIG. 5**



SPOTLIGHT from directly overhead lights upper marbles, completing the set-up for subjects in water. Lighting for a liquid alone is unsuited for opaque objects in water. **FIG. 4**

# ★ How to Know

PHOTOGRAPHING THE UNPHOTOGENIC — FACIAL IRREGULARITIES

BY JOHN HUTCHINS, A. R. P. S. — SCHOOL OF MODERN PHOTOGRAPHY

**T**HE PHOTOGRAPHER, like the painter, learns his job by studying faces and pictures. To him every face is a challenge. Many pictures reveal that they could have been changed for the better by no more than a slight turn of the head.

When we look at any portrait it is natural to consider first the general effect. We get an all-over impression. This is like our motion picture long shot. Then our attention almost immediately goes to the expression in the eyes. This is our close-up. If the mood and expression of the eyes and the mouth are not attractive we will not like the picture. Then, the next anatomical consideration of the viewer invariably is the rendition of the nose.

If our subject actually has a crooked nose he is already aware of the fact. He will look to see if his nose appears to be straight in the portrait. Before we turn on our lights, we place our sitter in front of and looking directly toward us. Instruct

him to *very slowly* turn his head from this center position to the right until his nose is in profile. Then instruct him to turn his head *very slowly* to the left until it has described a semi-circle and it is in the left profile position. This lets us study the bridge of the nose from every angle.

The bridge of an ideally perfect nose appears straight at every angle. Some noses are straight at only one or two angles. Pick out the head position where the bridge of the nose looks straightest. It is just as easy to get a characteristic mood and expression that you desire of your subject at that particular angle. Build your entire lighting set-up around his head position.

There is a definite formula of lighting which has been adhered to quite consistently in the rendition of noses. Rembrandt, Botticelli, Titian and most of the modern painters have used this formula. It requires a highlight down the bridge of

**CORRECT** lighting provides highlight along bridge and shadow areas on the sides. FIG. 1



**INCORRECT** lighting allows shadow along bridge of nose. FIG. 2



# Your Noses

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CLASSIC FORMULA FOR lighting noses is illustrated here. A highlight runs the full length of the bridge of the nose, set off by a darker area on each side. FIG. 3



the nose and a darker area on each side. See Fig. 1.

A common mistake is to reverse the formula with a shadow down the bridge of the nose and highlights on either side. (See Fig. 2) The amateur should in the beginning of his photographic career follow rather closely the accepted formula of shadow—highlight—shadow.

Many amateurs make the fatal mistake of allowing a "pick-up" of light on the side of the nose. In other words, the nose is not "bridged" or "shadowed down" as in Fig. 3. This causes the side of the nose and the cheek to "flatten out" and blend into each other, and the result is an unfortunate lack of modeling. It is extremely difficult to shadow down the sides of a flat nose. Very often very charming shots of babies are completely ruined by this "flattening out" of the sides of the nose.

There are many types of noses which must be very carefully lighted by the photographer in taking a portrait. Let us consider first the nose that has three common faults.

1. Too large all over.
2. Not quite straight.
3. Slightly bulbous.

This is a common type of nose. The photographer must reduce its natural size and make it appear to be straight. He certainly does not dare to even slightly emphasize its faults. He must beware of:

1. A low camera angle.
2. Placing his lights low.
3. Tilting the head back.

In Fig. 4 a single light was used on the floor in front of the subject. The tip of the nose appears bulbous. The shadows on the nose distort its normal construction. The highlight on the bridge should never be broken by a shadow in this manner. This lighting results in a "broken nose" effect.

In Fig. 5, we have instructed the subject to tilt the head back a bit. The effect is the same as Fig. 4 only more exaggerated. Observe how the accepted for-

mula of highlight and shadow is completely lost. The nose is literally "cut up" by disturbing shadows.

In Fig. 6 we have turned the head a bit to the left. The dense shadow at the left of the nose only calls attention to the crooked outline of the bridge. The highlight on the bridge is again broken by a shadow. The center of interest in this picture is not the subject but a dense shadow right in the middle of our print.

In conclusion we may well decide that low lights are very effective for character shots but dangerous in general portraiture. They distort normal features and emphasize many slight facial defects. Very few noses can stand emphasis lighting. Low lights are excellent for eerie or dramatic effects only.

Fig. 8 shows the effect on the nose of a single light directly overhead. It is really a "portrait of a nose." This type of light is a positive "danger sign" for the photographer in all portraiture. Compare with Fig. 7 the same shot but with the addition of a front flood light near the camera's lens.

Remember the old line, "Mad dogs and Englishmen go out in the noonday sun." Fig. 8 is just about the effect of the noonday sun in many portraits. Very few noses appear to advantage when the face is lighted with the overhead rays of the noonday sun. Take your outdoor portraits in the morning or afternoon when the sun is nearer to a 45° angle position. The nose will not be over-emphasized and the eyes will not appear deep-set. This is a common mistake that is made every day by the embryo portrait photographer.

Back lighting is the all-important basis of third-dimensional portraiture. Look at the result of incorrect back lighting on the nose in Fig. 9.

Two spotlights at the 45° angle position illuminate the subject from behind. The bridge of the nose is in shadow and the bones by overlighting emphasis appear to be flaring out with wings on each side. This shows the nose is too large. Flare



WHAT NOT to do. Irregular nose, lighted from below, creates objectionable bulb-like tip. FIG. 4

TILTING HEAD back exaggerates bad effect of Fig. 4. It "cuts up" nose with deep shadows. FIG. 5

bones are emphasized by back lighting, making the nose appear swollen.

Now we turn off the floodlight beside the camera (see Fig. 10), and the effect of these backlights is even more obvious. In Fig. 11 we have a much more pleasing result, using one backlight which catches and emphasizes only the tip of the nose. However, the nose appears crooked at this angle. In Fig. 12 we have the head turned the other way. The nose appears straighter at this angle. But we are still bringing at-

tention to bear upon the size of the nose by overlighting the tip with a hot spot. Turn the head a bit more to the right as in Fig. 13 and the backlight does not touch the nose at all. Observe how much more proportional and pleasing it now appears.

We have preserved the original formula for the nose of highlighted bridge and shadowed sides. There is a thin catchlight on the rim of the left jaw which greatly helps the general modeling and delineation. This is good emphasis.

WITH HEAD turned a bit from the low light, a dense shadow emphasizes the crooked bridge. FIG. 6

OVERHEAD LIGHT makes nose the center of interest. Fig. 8 shows overhead light alone. FIG. 7







**SAME SET-UP** as for Fig. 7, except front light turned off. "Portrait of Nose" results. **FIG. 8**



**INCORRECT BACKLIGHTING** throws bridge into slight shadow, emphasizing both sides of nose. **FIG. 9**

Good expression often saves incorrectly lighted portraits. Compare Figs. 11, 12, 13 and you will see that pleasing expressions help minimize the incorrect lighting in numbers 11 and 12.

Backlighting is important in portraiture *but* it must be used with great care and discrimination. Don't let backlight leaks cause catch-lights on any part of the face unless that part can stand unusual emphasis.

Fig. 14 is an example of highly conventionalized lighting. It has been used for years as a standard stock pattern by many portrait photographers. One side of the face is in shadow and the other side receives the greatest amount of light.

I do not usually employ this formula of lighting. It is particularly static when the subject is facing almost full face toward the camera. It is too symmetrical. However, in Fig. 14 it is used to particular

**SAME SET-UP** as for Fig. 9, with front light turned off to show source of incorrect effect. **FIG. 10**



**BACKLIGHTING**, even from one side, emphasizes the nose tip, making it appear crooked. **FIG. 11**







advantage: This is (1) Because of turned head position, the nose appears smaller. We only see one half of it. (2) The side that we do see is in shadow. (3) At this particular head position the nose appears to be absolutely straight. Every portrait photographer should have a "mental filing cabinet" which contains the best lighting "set-ups" for each type of nose.

**TURNING THE HEAD** still more to the subject's right than in Fig. 12 completely eliminates the backlighting from the nostril. This produces a more pleasing emphasis and results in a pleasing portrait. FIG. 13

THE SUBJECT'S head is turned in the opposite direction disclosing a position from which the nose appears much straighter. The highlight on the tip of the nose, however, still over-emphasizes the nose.

FIG. 12

CONVENTIONAL PORTRAIT lighting is used to good advantage in this picture because of turned position of the head. We see only half of the nose, this makes it appear smaller. In this position nose appears perfectly straight.

FIG. 14



# "AUTOMATIC" PRINT CONTROL

NEW ENLARGING TECHNIQUE INCREASES SHADOW DETAIL  
— PRINT IS DEVELOPED BEFORE EXPOSURE

**G**OOD PRINTS can be made from very contrasty negatives by expanding the scale of the printing paper. In other words, a negative of very high contrast is printed in two steps instead of one, the first image acting as a mask for the second. To make the procedure understandable a practical case will have to be described.

Let's assume that we have a negative that has such high contrast that it will not print satisfactorily even on a soft grade of paper. Many such negatives are in every amateur's collection. In printing such negatives we usually hold back the shadows by dodging in order to let the highlights print in, but when the areas to be held back are complexly mingled with the rest

of the negative, this is difficult to do.

Now in the "automatic" method, the dodging is done by developing up on the paper a shadow image first and then exposing and developing for the rest of the image. This is accomplished by soaking a sheet of suitable projection paper (Agfa Cykora is all right; Agfa Brovira is not) *in the paper developer first, before giving it any exposure at all.* After a 1½ minute soaking, the paper is picked up by one corner and permitted to drain for a few seconds. Now it is placed upon a sheet of clean glass and finally upon the enlarger easel.

The negative, having been previously focused, is exposed upon the wet sheet of paper for about one-half the exposure you

**EXCESSIVE CONTRAST** in the negative is indicated by this print on soft bromide paper. To get the best possible print from such a negative, control is necessary. FIG. 1



**USE OF "AUTOMATIC" PRINT control** produces much more pleasing print. Note that detail under the porch roof is clearer than in Fig. 1, and that the gradation through the whole print is much improved. FIG. 2



would give for that negative on a sheet of dry paper in making a normal print. This "underexposure" will be sufficient to affect only the shadow parts of the picture and soon a shadow image will appear *while the paper remains in position on the easel*. Now you can see why the paper is first soaked in developer, because the shadow image must develop on the easel without disturbing the position of the paper.

After the shadow image has come up, the paper is again exposed and this time the highlights will "burn" in but the shadows will not block up since there is a "mask" present to prevent the paper in these areas from receiving any appreciable further exposure during the time the highlights are being exposed. This second exposure should be determined by the density of the highlights, but it should be at least equivalent to a full exposure that normally would be given a dry sheet of paper. To develop the second exposure, the paper is removed from the glass and transferred to the tray of developer whereupon the highlights will develop up but the shadows will remain about the same.

This method was described at the October, 1940, convention of the Photographic Society of America in Cleveland by Lloyd E. Varden, A. R. P. S. of the Agfa Ansco Corp., by whose courtesy the illustrations for this article are provided. It is known as the Emmermann Process, and some pictorialists refer to it as the automatic Person process.



PRINT FROM SAME negative as used in Fig. 4, showing final result using "Automatic" print control method. Highlights in the face are softened and detail in hat and suit are not blocked. FIG. 3



STRAIGHT PRINT on soft paper is too contrasty. FIG. 4



PRINT showing "mask" before second exposure is given. FIG. 5

What the procedure can accomplish is shown in the illustrations. The idea is so simple and yet so useful that it is well worth using.



DEMONSTRATION board on which light control units do their stuff. Light is divided into rays.

**M**UCH of photography consists of controlling light rays to produce certain effects. When you make a picture by artificial illumination, the chances are that you use reflectors and lenses to shoot beams of light just where you want them. The lens in your camera controls the rays of light reflected from the subject, in such a manner that an image is formed on the film. After the negative is developed and dried, you put it into an enlarger where various lenses and perhaps a reflector make the light rays paint an image on a piece of sensitized paper. Or perhaps you take color pictures, and you show them by means of a projector that controls light rays in such a manner that an image is produced on a screen.

Thus, in following photography as a hobby or profession, you are constantly controlling light. The exact manner in which this light is handled may never have troubled you, or it may have left you wondering. Just how does a spherical

# LENSES

*Perform on*

# "LIGHT TRAPEZE"

DEVICE DEMONSTRATES  
HOW LIGHT RAYS BEHAVE

BY WALTER E. BURTON

mirror placed behind a projector lamp increase the brilliancy of the image on the screen? How does a positive lens work? A negative lens?

At Nela Park, in Cleveland, Ohio, where General Electric lighting engineers are constantly studying the control of light, a fascinating gadget has been constructed to show exactly how a reflector, prism or lens handles light rays. Briefly, this device, which can be likened to a trapeze on which light-control units perform, consists of a flat, white board with a lamp mounted near its center. Over the lamp is a metal cap whose sides contain narrow slits perpendicular to the board surface. Light can reach the surface only through the slits, and so a pattern of radiating light beams is formed. By placing metal objects and transparent forms shaped like sections of reflectors and lenses, in the paths of the light rays, we can see at a glance exactly how lenses refract or bend light rays.

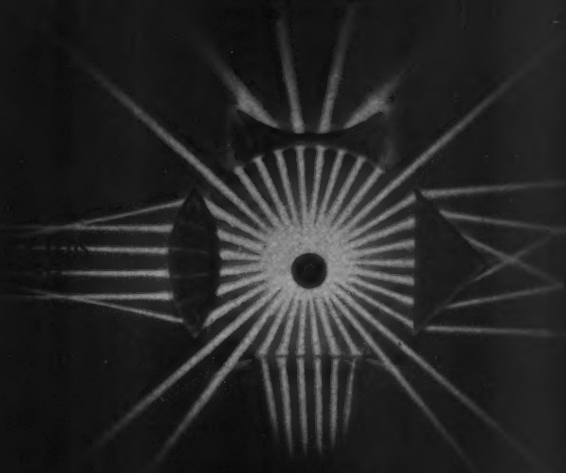
The light-control demonstration board does not employ actual photographic mirrors, reflectors and lenses, but only cross

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sections representing slices through such units.

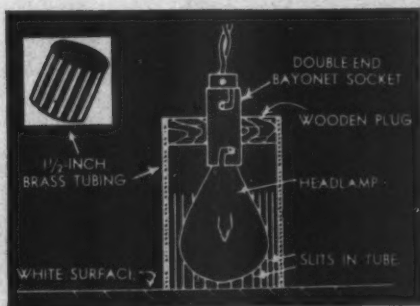
In event you might want to build such a demonstration board for yourself or for use in a school or camera club, here are some design suggestions:

The General Electric Company developed a special lamp for use with such boards. It has a slender, straightline filament that gives clear-cut rays across the board surface. The lamp is known as a 60-watt, 115-volt Reflector Action Demonstration Service Lamp. T-8 clear bulb, intermediate screw base, coil filament. It is a "special schedule" lamp, and can be obtained through dealers on order. The life when used in an enclosing cap is 4 or 5 hours, and the lamp's cost is \$1.70.

Instead of a special lamp, you can use a 21-21 or a 32-32 candlepower automobile headlamp, and burn one filament at a time. However, because of the "V" shape of most auto lamp filaments, some of the light rays will be double. Of course, such a lamp will have to be operated from a 6-volt source such as a storage battery or transformer.

The surface of the demonstration board must be flat, and covered with a material having a slightly roughened surface, such as white blotting paper. The lamp is mounted in a hole in such a manner that the base of the bulb is about even with the board surface. Another, less permanent way when using an automobile lamp is to mount it in a cap that has an open

(Page 95, please)



SLOTTED CAP over a light bulb makes the "light analyzer," producing radiating light rays. Diagram shows use of automobile headlamp. Inset shows the 1 1/2" brass tube which goes over the lamp. In use, end of tube is pressed against a white surface.



# PICTURES OF THE MONTH

10 - FULL - PAGE REPRODUCTIONS

HERE IS A PICTURE that gets its dramatic value from subject matter alone. In the expression on the wrestler about to hit the canvas, in the pose of the referee and in the expressions of the few spectators whose faces are lighted—the whole story is told. Even though wrestling results may

be fixed in advance there is an element of suspense that only the most blasé fail to feel. This picture captures that effect. DATA: Leica G camera, Summar 50mm, f2 lens, Agfa Ultra Speed film, f2, 1/100 second, Champlin No. 15 developer, Velour Black paper.

WRESTLERS

By H. W. FRANK






**BAD WEATHER?** Never with camera in hand. It's good weather for capturing the "illusion of depth" created by snow, rain, mist or haze. After nightfall, look for the gleam of wet pavements and street-lamps knifing the gloom. The secret of the above picture is in the arrangement of the black shapes. Note the silhouettes of hurrying pedestrians and,

in his white coat, the obviously worried traffic cop. The lantern-crowned traffic post, with down-directed beams, seems to spotlight the entire scene. In the center, the black and the white objects all are relatively small and evenly disposed. DATA: Zeiss Super Ikonta B,  $f/2.8$ ,  $1/10$  second.—By Harvey Falk.



"PEOPLE is the cwaziest animals!" Mama Lion probably is telling her cub. At the Zoo, a group of two or three animals is better than one, especially when they're all "eyes front" in response to

a sudden sound or light. Get as close as safety and Zoo rules permit. Open pits permit shooting without the impediment of bars. DATA: 1 flash bulb. By Clyde Martin, from Philadelphia Zoo Exhibit.



**EMOTION**, strongly portrayed, calls for dramatic illumination. In the above, spotlighting from the side reproduced the skin texture which makes the right side of the face appear vivid and real. It also created the brilliant highlights in those centers of expression—the mouth and eyes. One of the new "midget" size spots will amply illuminate a single head. In lieu of a spot, a naked lamp, preferably unfrosted, may be used. Without a reflector, it

gives sharpest shadows. The use of a portrait attachment permits working up close. The photographer's final problem, after lights and subject are arranged, is eliciting the expression. This is not accomplished by merely saying, "Look mad," or, "Now please appear frightened," but by convincing the subject that he is "scared," or "sad," or "mad." DATA: Eastman S. S. Pen,  $\frac{1}{22}$ ,  $\frac{1}{5}$  second.—By J. Leslie Horne, from Oklahoma Camera Club.



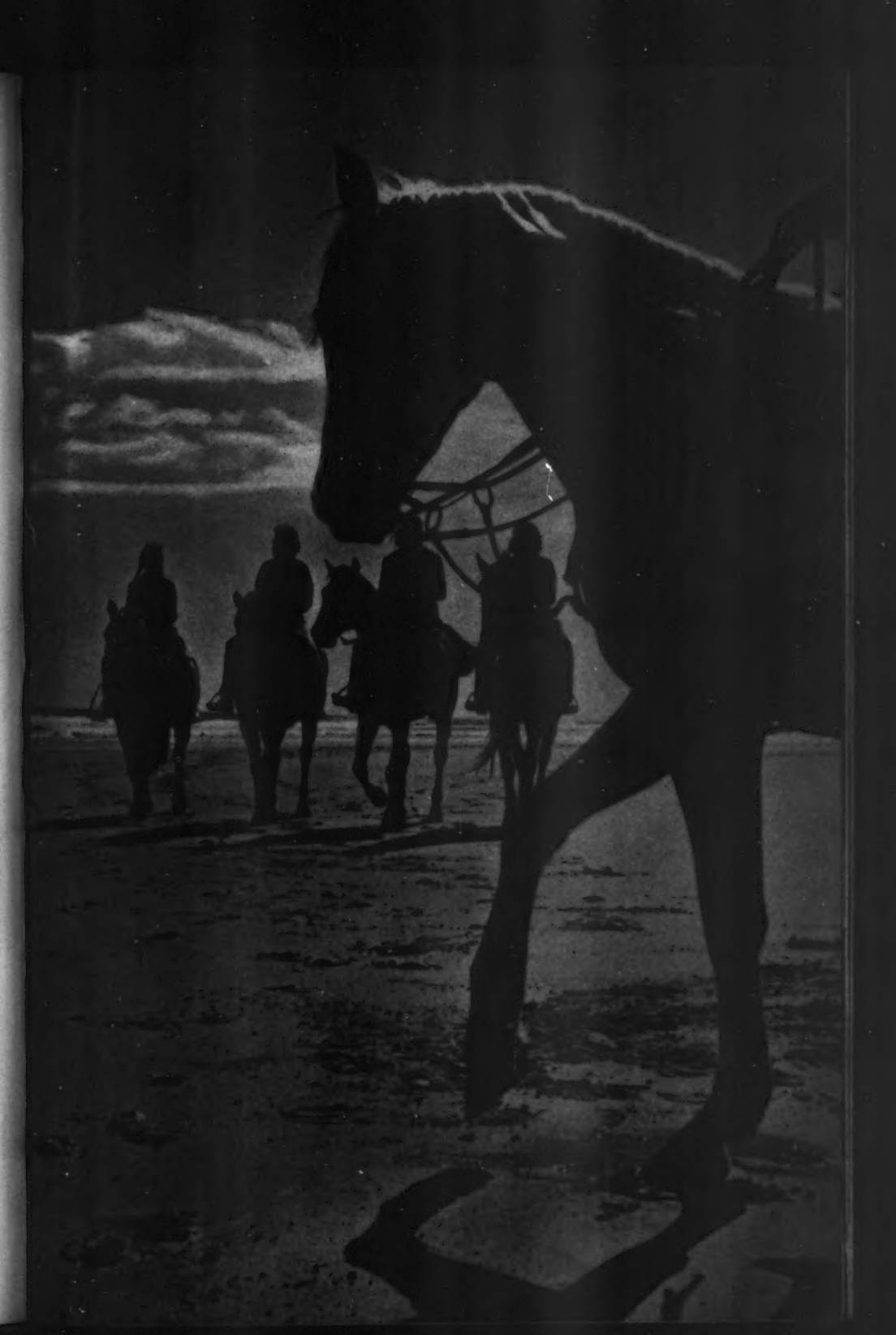
THE SQUARE format (above) is perfect for depicting certain moods. The cold, winter scene from Central Park, New York City, portrays a feeling of bleakness and solitude. The monotony of the picture's equal sides echoes the isolation of naked branches, desolate sky and seemingly deserted background buildings. DATA: Rolleiflex camera, Panatomic-X film, light fellow filter,  $f/8$ ,  $1/25$  second:

—By Rowena Fruth.



LUCK makes many a picture, especially when it is the luck of a cameraman who knows what to look for and is waiting at the right moment with his finger on the trigger. Here he captured two factors in motion, the distant riders and the foreground horse. Notice how perfectly two of the riders have been framed under the horse's head. One foreleg has been caught just coming down, but not yet on the ground. The shot was made toward the sun to obtain the horse's shadow in the lower right to round out the composition. The backlighting cast the riders in silhouette, but looking at the picture, the eye asks for no detail there, as it is provided in the foreground horse. This one picture tells as much, and more, of the story as could be told in separate pictures showing the subjects from afar and in a close-up.—By Ulrich Meisel.







WHEN imagination wanes, pick out a table-top subject that in itself holds all the humor that a picture can contain. The easiest type of picture is one in which the subject carries all the significance. With such a model, the photograph becomes a technical exercise, and that isn't a bad idea either. Even Paderewski practices the scales from time to time. **TITLE: "The Gaucho."** — By R. Soderquist, from the Leica show.

CONTRASTED with the simple "Gaucho" subject, the pattern of pine needles on the next page assumes extreme complexity. Contrary to popular belief, the photographer doesn't drop these needles on the fabric and photograph the jumble. Instead, as a little study of the subject will reveal, these pine needles have been placed in carefully recurring positions. For example, in the center of the picture the needles form three dominant triangles with apexes pointing to the left. Across these have been



laid two others pointing upward; and others, less dominant, pointing horizontally. Toothpicks, match

sticks, spoons, and hundreds of every-day objects, can be made into such designs.—By Charles Hurault.



THE SUCCESS of "Snow Queen" is attested by its record of 19 salon hangings out of 21 submissions. The story behind the print is best told in the photographer's own words:

"Ever since we obtained the white cat as a house pet I had wanted to get a picture of it up in a tree against a dark sky. I told the children this, and one day they came in with the news, "the white cat is up in a tree!" I hurried out with a camera, but the cat was almost hidden up in a big evergreen—no light, no sky background, no picture!

Days later my "spies" ran in with the word that

the cat was up in the RIGHT tree (I think they put it there!), with snow, sky and everything O.K. The only film I happened to have loaded were some old Defender X.F. pan cut films that had been in the holders for a long, long time. I used a K2 filter, 1/50 at f/11 and had the children wave a paper on a stick to attract the cat's attention at the proper moment and in the right direction.

I made a transparency on Eastman commercial film and a 11x14 negative on Pentagon film, and after removing many spots and two branches have been surprised ever since!"—By Gayle A. Foster, A.R.P.S.



"PRAYER" is a timely subject in a grief-torn world. The photographer has successfully used closeup details to suggest larger entities. Note that an eye is enough to portray the face of the

worshipper. The hands are a body lifted in supplication, and the candles a lofty church—all portrayed by careful use of details in closeup. By Harold Burdekin from *Photography Year Book*.



# ● PHOTOGRAPHY IN THE U. S.

WITH ILLUSTRATIONS FROM THE ARCHIVES OF U. S. ARMY

WHEN the name "Signal Corps" is mentioned, people often assume that reference is necessarily intended to include only the communication branches of the Army. This is not the case. The Signal Corps has many diversified technical fields for which it is responsible, and the one which will interest readers of MINICAM PHOTOGRAPHY most is the very active one of photography. For years this was the baby of the Signal Corps, but since the World War the uses of photography for military purposes have increased to make this activity a very important factor in many military situations.

The Signal Corps has the responsibility for performing the ground work in still and motion picture photography. The Air Corps takes care of all aerial photography, having a very extensive division that specializes in that particular branch of photography.

In Washington, D. C., the photographic responsibilities of the Signal Corps are directed by the Chief Signal Officer through the Photographic Division of his office. From this focal point, as in any large corporation, the photographic program and the policies to carry out these policies emanate. The creation of new photographic units, the establishment of

new standards for equipment and supplies, and the necessary action to coordinate plans to meet the needs of the War Department are directed through military channels.

The central Signal Corps Photographic Laboratory is located at the Army War College, Washington, D. C. This laboratory is fully equipped with photographic equipment for the processing of still and motion pictures. Latest types of cameras, printers, developing machines, and other equipment are tried out, tested, and used in production under laboratory and field conditions, both by the central laboratory and by the laboratories located in the corps areas and departments.

During the World War, the Signal Corps really "hit a stride" and made photographic history—over 90,000 photographs having been made. The average person cannot realize the magnitude of the job. Here are historical records of our troops in training camps, of the arrival in England—with the A. E. F. in France and Flanders—with the Army of Occupation in Germany and the expeditions in the Arctic Zone in North Russia in Archangel and in Siberia—a complete pictorial record from pictures showing the "drawing of the first draftee" to that of the "last

## A STATEMENT FROM HEADQUARTERS

"To many prospective soldiers who, due to professional and amateur photographic experience, desire to be assigned to duty with the Photographic Division, Signal Corps, the following statement will be of interest and clarify any erroneous information they may have received from other sources.

"The Signal Corps expects to obtain the necessary experienced photographic personnel without resorting to schools for basic photographic training of personnel without previous photographic knowledge. Compared to the large number of men being

brought into the service, the requirements for photographic personnel for the Signal Corps are small, initially under 300 in all. Consequently, no steps are being taken by this office for the procurement from certain sources of such personnel, outside of filing for future reference the names and qualifications of specially qualified individuals who may write to this office. Due to pressure of work we would doubly appreciate it if persons who do so submit their names request that there be no acknowledgment of their letters."

# SIGNAL CORPS

BY MAJOR GENERAL J. O. MAUBORGNE



MAJOR GENERAL J. O. MAUBORGNE  
CHIEF SIGNAL OFFICER, U. S. ARMY



A SIGNAL CORPS photographer took this startling silhouette shot during 3rd army maneuvers, 1940. It shows a M2A3 light tank moving forward to the attack supported by foot infantry.

SIGNAL CORPS photographer takes many movies.

ON a field truck, they film attack planes.





IN 1918, from a shattered barn near Brielles on the Meuse, Lieut. G. F. Shoedsack prepared to take pictures of the big push.



NOW, army photographers work with well-equipped trucks. The reflector boards are used to reflect sunlight into shadow areas.

gun fired," the Signing of the Armistice and Woodrow Wilson's two trips abroad, and the Signing of the Versailles Peace Treaty. The Photographic Division preserves for posterity a pictorial record of the activities of the Army of the United States.

At the central laboratory, in Washington, are filed negatives going back to the Civil War. These include copy negatives of the famous Mathew P. Brady Civil War photographs, the original negatives having been turned over to the National Archives. Herein are also stored negatives of other past wars and historical events, making up probably the most complete pictorial history of the United States that is anywhere assembled.

In the office of the Chief Signal Officer,

is a pictorial library which contains photographic prints of all negatives stored at the Signal Corps Laboratory. These photographs are filed under a cross index system to meet a constant demand from writers, research workers, newspapers, magazines, and interested citizens who have occasion to inspect and purchase copies from these files.

These photographic prints include copies of historical paintings and drawings dating back to the American Revolution; the War of 1812 and the Mexican War of 1845; copies of the Brady Civil War photographs; old western frontier days, including pictures of famous Indians, old forts, wagon trains, and some showing the customs of that rough and ready period. Also contained in these files are pictures of



FATALITIES among photographers in the next war may be higher than in the infantry if they take pictures like these maneuver shots in actual warfare. They are working in the front lines.

**WAR PHOTOGRAPHY** then and now. The horse and buggy was the photographer's conveyance in Civil War days. This historic picture shows the photographic outfit of Mathew P. Brady before Petersburg, Va.



**WORLD WAR** days saw photography motorized. This unit traveled in a converted Model T Ford.

Here is the Photo Unit of the A. E. F. 79th Division, posing at Souilly, Meuse, France. The photographers (left to right) are Sergeant (1st Class) Morris Fineberg, Private (1st Class) Henry W. Paschen and Private Harry C. Rathburn.



**PHOTOGRAPHY** now takes to the air. This Signal Corps photograph shows cine photographers of Film Field Unit No. 2 preparing to go for air shots of field artillery maneuvers.



the Spanish-American War; the Philippine Insurrection; Boxer Rebellion; early American aviation and the Mexican Punitive Expedition.

The Photographic Division of the Signal Corps continues its regular duties in recording pictorially history as it is made, and naturally with the new expansion program in full swing, this Division is preparing its schedule for increase in laboratories, photographic companies, and motion picture field units. Technically qualified reserve officers are receiving their call to report for duty to be assigned to these units. Qualified professional photographers are enlisting, and also those who are selected in the draft and have the proper qualifications will, undoubtedly, as the photographic personnel is needed, be placed in this work.

At the present time, the Army has no training school for instruction of a large number of embryo photographers. However, selected enlisted men of the Signal Corps continue to receive extensive photographic training for future assignments to units in the United States and its possessions.

#### **Editorial note on the author**

• MAJOR GENERAL J. O. MAUBORGNE is himself a camera fan who wields a minicam with skill, and the foregoing article is his first contribution to his favorite photographic magazine. Under his command is the Army's vast photographic and communications organization.

Endless coordination with the National Defense Commission and the mountains of staff work pursuant to developing the skilled photographers needed by America's new army have lessened General Mauborgne's own photo work, but pictures remain his brightest enthusiasm.

This enthusiasm has a solid and respectable history indeed, for it traces back 51 years, to the day when the towering general was a bright-eyed boy of 8. That was the day he got his first camera, a ponderous affair with a single glass plate and a lens cap for a shutter.

General Mauborgne's first camera, he avers, was as good and sturdy as it was heavy and old fashioned. Before he was nine he was making many photographs with it. His next camera, a few years later, was a great step

toward modernity: it was an early model Kodak which would take 20 pictures at once. But he had to load it in the dark!

When General Mauborgne, as a young officer, went to the Army Signal School, Fort Leavenworth, Kas., in 1909, he had the encouragement of an elder officer who was quite as strongly sold on the camera as an instrument of both art and modern warfare. Then Director of the School was the far-sighted Edgar Russel, who subsequently became Chief Signal Officer of the A. E. F. and rose to the rank of Major General before he retired in 1923.

Those were still the days of the massive reflex and the 30-pound view camera, but Russel and young Mauborgne, even then were the prophets of the minicam.

"There must be pictures with every report," said Russel. "A Signal Corps report with photographs is worth ten times as much as one without them. And to make those pictures the officer must have a small, light camera, which will enable him to take many pictures, from which the best can be used. There is no time in warfare to set up elaborate, clumsy mechanisms."

What he had in mind, of course, was minicams, but the word had not been devised. The officers, however, had the idea mastered, and they conducted elaborate experiments with the early types of miniatures.

General Mauborgne has watched the miniatures develop ever since, following each real improvement in design, but remaining immune to the lure of "new models" which are new only in paint, polish and decoration.

Thus, his personal, and favorite, camera today is an honest old Contax I, but he has replaced its original  $f/2.8$  lens with an  $f/1.5$ .

Like all true photographers, General Mauborgne prefers to do his own work, from snapping the shutter to the finished print. And like the elite of initiates, he prefers equipment of his own design.

His enlarger, for instance, is strictly a "Mauborgne Special." He might have obtained any of the fine and fancy modern enlargers, but he had something that he considered better. He started with a simple enlarger, of the type to which a camera is clamped for use. He affixed permanently a little view camera with a sharp cutting  $f/2.8$  lens.

Next he mounted this simple system on the upright of an old drill press! The upright allowed plenty of room for up and down adjustment of the enlarger; focussing was with the camera's rack and pinion. The massive cast iron base and solid steel bed of the drill press left no chance whatever for vibration. On this mechanism, when he has time, General Mauborgne produces his own prints.



## HOW TO USE AN

# EXPOSURE METER TARGET

GRAY SURFACE OF STANDARD TONE SIMPLIFIES EXPOSURE READINGS



POINTING the meter at a card target makes it unnecessary to take a reading directly from subject.

USING an exposure meter is supposed to be a simple matter of pointing the instrument at a subject and letting the needle point to the correct exposure number.

When the subject includes large bright and dark areas, however, a slight shifting of the meter direction is enough to cause great variance in the readings. The same subject may then seemingly call for an exposure such as  $f/8$  and  $f/11$ , at one and the same time.

That's when an exposure meter *target* comes in handy. The "target" is simply a piece of cardboard at which to point the exposure meter. To make it of handy pocket size, the cardboard is arranged so it can be folded.

Use a piece of stiff cardboard about 7 in. square. Cut it into two equal rectangles. Place these together and bind one

of the longer edges with tape, so the cardboard pieces can be opened and closed like a book. Now cut the cardboard book in two again, this time at right angles to the first cut. Fold the hinged leaves together; place one section on top of the other, and tape one end. Swing the halves apart and tape the other side of the break. Your cardboard now can be folded into a compact square, small enough to slip into the pocket.

Obtain some gray water color such as that used for show-card writing, and some lighter or darker pigment to use in altering the shade, if necessary. With this color, coat the surface of the card that folds inward, covering the tape hinges as well as the cardboard. When the paint is dry, test the card to see whether it has the desired reflection factor. There are several ways of doing this.

One way is to take the card outdoors in bright noon sunlight, place it so the sun falls upon it squarely, and with the meter 4 to 6 in. away and held so its shadow doesn't fall upon the card, note the reading. If the card is about the right shade of gray, the reading on a Weston No. 650 meter will be in the neighborhood of 250.

Another way of checking the card is to aim a photoelectric meter at a sheet of white paper illuminated by a fairly strong light such as that from a No. 1 photoflood

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A FOLDING card is made in convenient pocket size and painted with gray water color such as used for showcards.

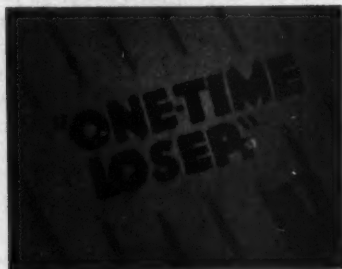
IN USE, the card is placed so as to be in the same light as the selected subject.



# YOU CAN SHOOT A

NOW THE PRIZE-WINNING PICTURE "ONE-TIME LOSER" WAS FILMED

By ORMAL I. SPRUNGMAN



**LOCK AND BARS** of main title for this 100-ft. 8mm. melodrama of a gem thief's tragic fate strike the film's mood. A single actor played all the parts.



**CAPTURED** after killing a watchman, the criminal is pictured, "behind the bars" by ingenious but simple photographic trick.



**WIRE** refrigerator shelf hung close to the lens produced illusion of prison bars in scene from film shown directly above. Ed Swanell is at the camera in this photo.

**I**F YOUR community has a dearth of good actors, don't fret. One good movie star is worth a dozen half-baked hams, and one-man scenarios are made to order for anyone who thinks he can portray different character roles.

Shooting a lone actor skit will not only test your camera technique, but will also tax your scenarizing ability, for in this type of story filming, careful attention to minor details is most essential. This calls for a good script and a reason for shooting it, since an aimlessly prepared scenario, without theme or purpose, is apt to fall flat. Of course, the easiest thing is to build your continuity into a local setting with which you are familiar — your city, your neighborhood, your home. A truckload of expensive "props" is not at all necessary, and you don't have to be a second Max Factor to whip out a little character make-up.

Perhaps one of the best examples of single actor filming produced in recent months up in my town is a 100-foot 8mm. prize-winning monochrome feature, titled, "One-Time Loser," created and filmed in his third year of movie making by Ed. Swanell, high school student and a member of the Minneapolis Octo-Cine Guild.

Briefly, the plot centers around a typical young man who loses his job, walks the streets; finally grows desperate. Reading a news headline that a local family of wealth departing on a trip has left valuable jewels at home in the care of a watchman, the youth breaks into the house, finds the jewels in a wall safe. As he attempts to escape, he is forced to shoot and kill the watchman. Unable to peddle his goods, the young man retreats to a hideout, while headlines and police radios blare out the news of the search for the thief. Under heavy mental strain, the youth finally breaks down, telephones police, and gives

# ONE MAN SCENARIO

himself up. He is sentenced to death for murder, and the closing scene shows the swinging noose and its shadow on the wall.

An Eastman f2.7, 8 mm. camera, equipped with a special windback for making fades, dissolves and montage effects, was employed for all the shooting, and only 150 feet of regular pan and Super-X were exposed to produce the finished 100-foot feature. Since lighting varied, a meter was used to determine the correct exposure for every scene.

Robert Mahoney, 20, member of a Minneapolis drama group and a friend of Swanell, agreed to play the part of jewel thief, watchman, pawn broken and policeman, and together they worked hard on completing the script. Nearly two months of off-and-on holiday filming were required before "One-Time Loser" was finished, all editing being done as rapidly as processed footage was returned.

Each scene was shot only once, and very few retakes were necessary. Following the Hollywood trend, shooting was staggered. In fact, one of the last scenes shot was actually listed among the first in the script, showing the youth walking the streets.

Since considerable footage was taken indoors, flood lamps provided the usual illumination. For average scenes, two No. 2 floods were used. Occasionally a couple of No. 1 lamps were added for additional flooding.

To give a dim night effect in the safe looting scenes, for instance, one No. 2 flood was placed eight feet from the subject and low to give a shadow effect on the wall. The lens opening was set at two stops below normal exposure. Another number two was inserted in a nearby table lamp, and when the thief switches on the light, the scene is given a pleasing roundness.

The wall safe, hidden behind a hanging picture, was simply a black cardboard disc with a small spool cut in half for the "dial." To get



HEADLINE in local paper prompts jobless man to steal the jewels. Swanell pasted this hand-lettered headline on a newspaper and shot a close-up of the page.



JEWEL thief opens the hidden safe. The "safe" is a black cardboard disk hung on the wall. The dial was a blackened spool sawed in two. Framed picture hid safe.



CLOSE-UP of thief with jewels. Robert Mahoney, Minneapolis actor, played this and all other parts in the film. Flood bulb inside lamp shade is main light source.



**MURDER** of the watchman is made more vivid by this multiple exposure "montage" shot. Special wind-back on Swanell's 8mm. camera was used to make several exposures on same length of film. Another scene in which the condemned man reviewed his crime also used this technique.



**MAHONEY** dons new makeup and costume to portray the police officer. Only simplest makeup was used, lighting and costuming aiding greatly in changing the "personality" of the various characters.



**FINAL SCENE** shows noose swinging slowly before drab rough masonry wall. Much of the force of this film was gained by the power of suggestion, typified by this powerful shot. This film took top award in a movie story competition conducted by the Octo-Cine Guild of Minneapolis.

away from the faking angle, the illusion of removing the jewels from the safe was accomplished effectively by clever editing. For example, the thief starts opening the safe as the watchman, aroused by strange sounds on the floor above, begins to investigate. Quickly, the thief flashes off the light and hides as the watchman enters. Convinced there is no one about, the watchman leaves and the thief resumes his work. As he fingers the gems, he accidentally knocks over the lamp. The watchman then rushes back to the room and is plugged by the thief who escapes with the jewels.

In editing this sequence, the thief is shown trying to open the wall safe. Then a quick cut is made to the approaching watchman. When the scene returns to the room, the safe is already opened and the jewels are being handled.

For contrasting the character parts, careful lighting and the barest essentials of make-up were employed. Swanell himself acted as make-up artist as well as cameraman and director, giving blonde Mahoney the Pawn Broker a set of realistic whiskers with an eyebrow pencil. Burnt matches were used for applying a mustache, wrinkles and fine facial lines. No rouge was needed.

The hair problem was solved without resorting to wig-wearing by having the thief don a hat in all scenes. By parting the hair in the middle for the watchman close-ups, the impression of old age was given. In the jail scenes, shot against a basement wall, a photoflood was placed on the floor shooting up at an angle to make the hair look dark.

Effective prison bars were "manufactured" by suspending a wire refrigerator shelf vertically two feet in front of the lens, with the subject some 15 feet away. The slightly out-of-focus bars made a very impressive scene.

The police station scene was re-created in Swanell's own dining room by placing a piano bench atop a table and shooting up at the sergeant's desk at an angle as he answers the telephone and learns of the thief's plea to surrender.

Perhaps the most unique part of the whole film was the montage, where the thief in his hide-out reflects back upon his dastardly deed, as watchman, police officer and screaming headline



fade in and out multiply-exposed over the original scene. To insure a perfect montage, Swanell prepared a detailed chart (when he should have been doing his high school algebra) showing the position of each face and the duration of screening time for every image. A maroon auto robe, which photographed a dead black, was used for the back drop, and before the montage was complete, the film was back-wound no less than eight times.

Now every movie maker may not have the ingenuity or the desire to whip up another "One-Time Loser." It is entirely possible, however, to plan a scenario with a simple plot and an outdoor setting which might be filmed on your next motor jaunt or vacation.

For instance, an abandoned sand pit and a ramshackle old house might provide a neat setting for a mystery movie or a ghost picture, with one person acting the multiple roles of hero, heroine, ghost, and blundering detective. The transparent ghost effect is obtained by winding back over the desired scene and filming the white-clad object moving about.

A western dude ranch might furnish an excellent locale for a six-shooter thriller covering the adventures of a lone cow-hand trying to round up the leader of a band of cattle rustlers. He could also take the part of the parson, the ranch boss, and the sheriff, as well as the villain.

A northerly vacation up in canoe country might be the inspiration for another one-man scenario in which the varied roles of illegal trapper, trading post operator and a Northwest Mountie could be handled by none other than your own bow paddler during an idle day or two in camp. Possibilities are limitless, depending entirely on the individual's imagination.

Because of the plot complexities that usually arise, it is always best to make a detailed shooting outline, grouping the various scenes in which a different character appears. This will speed filming without need for changing make-up. However, if it is impractical to do this, character make-up can be changed right on location.

Naturally, great care must be exercised in applying false whiskers, penciled mustaches and



WITH A remote control on your movie camera you can shoot scenes in which you are the star. A low camera angle and a nice cloud bank for a background increase the interest of this western sport shot.



ONE EASY trick, if you want to change the make-up of your lone character, is to have him grow whiskers. Burnt matches or burnt cork are ideal for quickly applying eyebrows, false mustaches or sideburns.

other facial lines each time, since movie audiences are usually very critical about such discrepancies. The best way is to plan out each character's make-up beforehand, shoot a snapshot close-up of the front and side view of the face as well as a long shot of the costume, employing these stills as a handy

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1. EDGE FOG



2. LOST LOOP



3. TILTED HORIZON

# 12 CINE SINS

AND HOW TO AVOID THEM IN YOUR HOME MOVIES

WRITTEN AND ILLUSTRATED BY JEFFREY QUINN

## FUNDAMENTALS FOR BEGINNERS—FIRST OF A SERIES OF ARTICLES

**P**RACTICALLY all the spoiled film which is returned to anxious cine filers from the various processing stations can be attributed to just about a dozen simple causes. Modern 8mm. and 16 mm. reversal film is remarkably fool proof, and the picture quality obtainable on these films is actually *superior* to that obtainable on the professional negative-positive films used by Hollywood cameramen. Only the skill of these film artists throws the balance back in their favor. Some types of reversal film are automatically controlled in development by ingen-

ious photo-electric controls to minimize exposure errors. There are, however, other ways in which films can be spoiled. Still, by taking a few very simple precautions, perfect home movies are within the reach of all. These precautions start at the very beginning. For example:

(1) **EDGE FOG.** Home movie films are daylight loading. However, there is always the possibility of light penetrating the edges of the film roll and fogging the margins of the picture—sometimes the picture area as well. Cure is impossible—prevention is easy. Load your camera

4. OVEREXPOSURE



5. UNDEREXPOSURE



6. CORRECT EXPOSURE





7. RAPID PANORAMING



8. OVEREXPOSED BACKGROUND



9. OUT OF FOCUS

only in subdued light. Indoors is best, a shady spot outdoors will do but never load a camera in direct sunlight. Edge fog will surely result.

(2) **LOST LOOP.** In loading the camera, loops must be maintained as directed by the camera manufacturer. Usually white guide lines are drawn inside the camera to show the film path. It is best after loading to run a few inches of film to make sure loops are maintained. A lost loop can produce the most distressing effect (see Fig. 2). This cannot, incidentally, occur in magazine loading cameras, but all others should be carefully checked after loading to make sure all is in order.

(3) **TILTED HORIZON** shows the effect of not leveling the camera sideways. Some types of camera have spirit levels in the finder, or little plumb bobs. Others must be leveled by eye. In any case, the camera must be level, whether photographing the Empire State building or the Leaning Tower of Pisa. Otherwise, the first may lean while the second is straightened; in either case, not a desirable result.

(4) **OVEREXPOSURE.** Home movie film, being of the reversal type, gets lighter with increasing exposure instead of darker as a negative does. While some types of film are controlled in development to compensate incorrect exposure, no method of control can correct more than a limited degree, and exposure should be reasonably close to the correct figure. A photo-electric exposure meter will more than save its cost in spoiled film.

(5) **UNDER EXPOSURE.** An underexposed scene is dark and muddy. Extreme underexposure may produce nothing more than a piece of black film. Again, the use of an exposure meter will help. A correctly exposed scene has a full range of tones from white to black, giving the most brilliant screen results.

(6) **CORRECT EXPOSURE.** A correctly exposed frame has clear highlights and good detail in the shadow or dark areas.

(7) **RAPID PANORAMING,** also called "panning" and "panming," is

10. FIXED-FOCUS USED TOO CLOSE



11. LENS FLARE



12. BAD BACKGROUND



probably the most prevalent fault found in most beginner's films. Confronted by a large vista, the natural tendency is to swing the camera over it from one side to the other. Sometimes the camera is also swung vertically, as a tall building comes into view. Notice how seldom this is done in professional films, and how slowly it is done when you do see it. Professional panoramas are always made on tripods of great weight, generally with a gyroscopic device to insure smoothness. In the amateur film it is better not to panoram at all, not only because of the blurred effect but also because it is ruinous to the composition of the scene. It is far better to take several short shots of striking parts of the landscape in succession. Such a series of shots will usually take no more film than a panorama of sufficient slowness, and each can be carefully composed.

(8) **OVEREXPOSED BACKGROUND.** This effect can just as easily result in an underexposed foreground—it depends on what the overall exposure is. It is usually caused by the improper use of an exposure meter. When using the meter at the camera position, the cell is mainly affected by the strong light coming from the distant background. Readings on a subject like this should be taken by approaching the subject quite closely with the exposure meter, to make sure that the meter is measuring only the light reflected by the subject. Such shots, however are seldom pleasing, and it would be better to move the subject into the sunlight.

(9) **OUT OF FOCUS.** Where the camera lens has a focusing mount, it must be carefully set at the exact distance of the subject. This is most important on close-ups, since there is more focusing leeway on distant objects. In the illustration, note that the *tree* is sharp, but the *subject* is not, yet they are separated by only 2 feet. An inexpensive tape measure is the means used by most professional cameramen to insure exact focus.

(10) **OUT OF FOCUS.** This is a *different* case. It is assumed by many beginners, that if a camera has a *fixed focus*

*lens*, it is sharp for all distances. This is not completely true. A fixed focus lens is usually set for 15 feet, and at small apertures everything from about 7 feet to infinity will be fairly sharp. Extreme close-ups, like the illustration, however, will not be in focus on such lenses, especially at the larger openings unless a portrait attachment is used over the lens.

(11) **LENS FLARE.** The old Box Brownie rule—"sun over your left shoulder" is good practice in movies too. Shooting into the sun usually produces streaks across the picture, caused by internal reflections in the lens itself. On color film, these streaks take on all the colors of the rainbow. On color film, backlit shots are seldom successful, unless the face is lighted by a reflector. The same holds true to a lesser degree in black and white. In either case a sun shade is necessary, to prevent the direct rays of the sun from striking the front glass of the lens. Lacking a sun shade, a piece of cardboard or even your hat will do, but you must be careful not to let the hat itself appear in the picture.

(12) **BAD BACKGROUND.** This is actually not a bad shot. Exposure and focus are O. K. But what is that growing out of the model's head? Not a new type of Silly Milly headgear. Just a bit of shrubbery a few feet behind the model. The prevention is simple; just watch your background. Moving the model just a few feet to the side would have prevented this.

That's about the whole list. Some cameras, of course, have their individual idiosyncrasies. On one or two, you have to watch out that you don't clip off the model's head on close-ups; generally some kind of a warning marker is found in the viewfinder of such cameras. A couple of them have fairly symmetrical cases and you have to be careful not to shoot with the camera upside down, unless you're deliberately trying to make a reverse-action shot. But for generally satisfactory movies, just watch out for these Cine Sins—the Deadly Dozen!

# GALS FLASH THE NITE-CLUBS

BY BOB HURST — ILLUSTRATED BY THE AUTHOR



● "Take your picture, mister?" or words to that effect naturally are most effective when coming from a pretty girl with a well-synchronized smile.



● The negative is rushed to the basement dark-room for developing and printing by the photographer or her colleague, right on the premises.

## ● PATRONS OF NIGHT SPOTS

in cities large and small are beginning to think that the ubiquitous blitzkreig has pushed as far as our shores as flashbulbs knife the darkness of their favorite haunts. These invaders, however, are armed with nothing more lethal than Speed Graphics and their personal charm. They shoot only at your pocketbook.

If we had to go to war now, a good many of us probably would know only enough about a gun to point it in the general direction of the enemy and press the trigger. The night club photo-gals manage to know just about that much of photography.

The Photo-Gals mostly use a  $2\frac{1}{4} \times 3\frac{1}{4}$ " Speed Graphic fitted with a tubular viewfinder, a Mendelsohn Speed-gun synchronized with the Compur, but no rangefinder. The shutter is set at 1/100 second and adjustments, if any, made with the diaphragm.

Thus far the pictures taken in night clubs reveal only three of the four necessary components: a pretty girl behind the



● In about 15 or 20 minutes, the enlargement is mounted and ready for delivery to the cabaret customers so they may have photographic evidence of their good time, that will help them convince their friends.

camera, good photographic equipment, and patrons with money to spend. Nevertheless they get their price of \$1.00 a shot, and often more. Many of the night club picture-snappers are like one of them who pointed to the viewfinder on her camera and said: "When I see 'em in here, I just press the button."

# Putting the Spot

HOW TO TAKE PICTURES OF CHILDREN—BY A FAMOUS  
MODEL WHO BECAME A SUCCESSFUL PHOTOGRAPHER



JUDITH RUSSELL, the author, as a model. This is from the famous salon print "Judy" by John Hutchins which was reproduced in MINICAM (Jan. 1939) and widely exhibited.

FIG. 1



MISS RUSSELL, as a photographer, turns the tables, and maintains that the spotlight of attention now belongs on her subjects. For her baby pictures, she uses three lights arranged as shown.

FIG. 2

**D**ID YOU ever have a desire to break away from what everyone considered "the thing to do," and try something different. If you have, then you'll understand my feelings the other day as I stood in front of a camera shop, gazing at a pair of those new small spotlights. Suddenly I found myself wondering why they wouldn't be ideal for baby photography . . . if they might not be the answer to the problem of getting sharp, crisp highlights on tiny faces.

Flood lamps in reflectors furnish good, all-around illumination for photographing children. But they tend to produce a rather flat print, one that depends for appeal entirely on the subject's expression.

The new 100 to 150-watt spots are a tremendous boon to amateurs and professionals, because their small size, fine light quality and low cost have made it possible for photographers everywhere to try the Hollywood glamour touch in their portraits. I had an idea that now might be the time to try a bit of that glamorizing treatment on the baby.

- An hour later, I was at my sister-in-law's home focusing on her young daughter with three Dinky-Inkies (trade name from Hollywood slang, dinky—"small," inkie—"incandescent.") Just how the set-up was made, you can see in Fig. 2. It's typical 45 degree portrait lighting, with the key light on the mantel, the fill light to the left of the camera and a backlight behind little Anne. The stands are merely old music racks pressed into service. The results are shown in the pictures which follow.

My initial surprise was Anne's complete unconcern when the current was turned on and the lights blazed into action. Despite



# *on the Baby*

WRITTEN AND ILLUSTRATED BY JUDITH RUSSELL WEBSTER



ENTHUSIASTIC EXPRESSION results when the child is not blinded by strong lights. Three baby spotlights used, placed as shown on previous page.



**THIS STRIKING** study captures the wistfulness of a child's wonder at an ever increasing vista of interest.

their punchy, sparkling quality, they don't glare at young eyes, or cause the self-conscious squints that ruin many shots. Since naturalness is an important feature in baby photography, that's a prime consideration.

Then, too, there was the matter of making action shots, and that requires a generous amount of light. So I was extremely happy at being able to click the shutter of my Rolleiflex at 1/50 to 1/100 of a second, with the lens at  $f3.5$ —the same speed as with photofloods. And that was with diffusers on both front lights, softening them to give extra rich skin tones

The spots are so portable, that there's no problem to making a dozen changes in the setup, if it is desired to obtain results—varying from high to low key, from straight lighting to glamour treatment.

But the one point that's foremost, is the ease of working with baby spots. When floods furnish the illumination, there's scarcely a chance for a backlight to accent the hair or put a crisp highlight on a soft cheek. That's because the light spills over the room and right into the lens of the camera. The upshot is that baby pictures

often suffer from perfectly flat illumination.

However, with the various sizes of "snoots" and the "barn doors"—two typical Hollywood improvements—I was able to direct the beams from the Dinky-Inkies to the places where they would do the most good. A "snoot," as may be seen in Fig. 2, on the back-light, is a tube that concentrates the light. A "barn door" (seen on the light on the mantel) is an adjustable blinder to keep stray rays from the camera lens. The confinement of the light beam is one reason why youngsters like spotlights better. Because of their low current consumption, the

problem of blown fuses is a past memory.

- Frankly, I was surprised how quickly the photographs were completed. As for Anne, she was still having fun, and the room hadn't warmed at all from the presence of the lights. Her parents were enthusiastic about this new way of taking pictures, any danger and strain of a photographic session were eliminated. And I double-checked my approval of the spotlights, when I saw the negatives come out of the hypo, with highlights rich and full, the skin tones warm and natural.

Since that first experiment I have learned a number of tricks about these baby spots, which have helped me greatly. For one thing, they're ideal when working in close quarters; and in photographing children at their own homes, that's a frequent problem. Even when the child can be only a few inches from the wall, a spotlight will cover the background without overflowing onto the side of his head as a flood would do. Or you can add a backlight where the space is cramped, and control its intensity with the "flood-to-spot" adjustment or by adding diffusion discs.

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At times there are advantages to using a floodlamp for the principal illumination, especially where there is a great amount of space to be covered and the subject is active. In that case, the spotlights are wonderful as auxiliary illumination, for accenting one side of the face, or bringing out the curls in the hair. To make high key portraits, a floodlight can be concealed low, behind the subject, while the spots illumine the face. Low key is a field that offers good possibilities with youngsters, and it requires spotlights with their complete control of the light.

Makeup for shooting with spotlights or photofloods is a sparing application of olive oil. Since spots have a punchy light, be doubly careful to go easy with the oil and avoid a greasy appearance. Don't use talc after the oil, however, as it completely deadens the sparkling effect.

No matter what kind of lights you employ, you won't do yourself any good by inviting several people in to watch the pro-



A CHILD'S chair was used here on top of a coffee table to raise the subject above distracting elements on the wall background.

AN ATTRACTIVE grin and a pair of chubby cheeks are an unbeatable combination, especially with baby spotlights to bring out sparkle in the face.



THE PERFECTLY natural expression in this shot appeared for only an instant while the author told the story of "Goldilocks and the Three Bears."





**WHAT NOT to do.** (1) The child was too close to the wall. (2) The contrast between the light wall and dark floor is bad. (3) The expression is poor. (4) The lights are approximately at equal distances. This gives bad cross lighting, casting shadows on both sides of the subject.

ceedings. Even two parents can prove too many, especially if they stand in opposite corners of the room and call, "Smile Anne! . . . look over this way! . . . no over here! . . . see, isn't this funny!"

Since I am constantly moving about with my camera, I use the mother's help to attract the child's attention away from the camera. A favorite toy or a bright article in the baby's hand usually is enough to get curiosity aroused.

Position, they say, is everything, and certainly that's true when a baby faces the camera. I prefer familiar surroundings, and put him on a bed with a light coverlet or in a high chair. Avoid play pens and other locations which impose overly complicated or "busy" backgrounds and foregrounds.

The position of the camera is equally important, in avoiding distortion. An outstretched arm or leg will appear gigantic in the finished print, unless the camera is back far enough to minimize the effect. If the exposure is not too heavy and the development is fine grain, a part of the negative can be enlarged permitting a

#### HINTS FOR BABY PHOTOGRAPHY

**BEGIN** with one basic light for modeling. Beware cross shadows when placing the fill-in light, which softens the deeply shaded portions.

**KEEP** the lights fairly low, to illuminate the child's eyes. Spotlights won't blind him as floodlights do, and he can look above them.

**REMEMBER** that strong lights on top of the head make the youngster appear bald. You can use a back-light, but handle it judiciously.

**WATCH** the nose shadows. A low position for the key light yields a stubby shadow, that gives roundness to young noses, which rarely possess much character.

**PLACE** the lights far enough away to avoid "hot spots." A spotlight gives perfectly even illumination, I've found, but it will accentuate an outstretched arm or foot if it's too close.

great deal of trimming of the picture.

Here's another Hollywood glamour touch, suggested to me by James Wong Howe, Warner's ace cameraman. (A story about Jimmy Howe by Harry Champlin will appear in a future issue of *MINICAM* —Ed.) Cut out a comic animal or toy from cardboard, and project its shadow on the background in a spotlight beam, to add a distinctive atmospheric touch to the picture.

Of course, with young babies you'll have to give rest periods between shots, when the lights are turned off and the subject receives a few gulps of orange juice. When working, you must keep calm, for children absorb excitement like sponges.

● **SOME** of the popular baby spotlights and names and addresses of the companies manufacturing them are: The "*Dinky-Inkie*" (100 to 150-watts) made by Bardwell & McAlister, Inc., 7636 Santa Monica Blvd., Hollywood, Calif.; the "*F-R Hi-Spot*" (200 watts) made by Fink-Roselieve Co., Inc., 109 West 64th St., New York, N. Y.; the "*Britelite Sunspot*" (No. 1 flood lamp) made by Motion Picture Screen and Accessories Co., 351 West 52nd St., New York, N. Y.; the "*Bantam Super-Spot*" (500-watt T-20) made by the GoldE Manufacturing Co., 1216 W. Madison St., Chicago, Ill.; the "*Fedco Bantam Spotlight*" (100-watts) made by Fedco Products, 721 Broadway, New York, N. Y.; the "*Academy Baby Spotlight*" (100 to 200-watts) made by Frank A. Emmet Co., 2707 West Pico Blvd., Los Angeles, Calif.; and the "*Hi-Lite Spotlight*" (200-watt) made by Lafayette Camera, 100 Sixth Ave., New York, N. Y.

**SHARPNESS OF shadows and clarity of detail is desired in baby portraits. Including the hands of the tiny subject increases the interest of the composition. Illumination exactly as shown in Fig. 2. The 150-watt key light on the mantle is equipped with "barn doors" to control the beam. The 100-watt fill light at left of camera relieves the shadows cast by the key light. The back light is provided by the 150-watt spot raised above the subject at the rear. By using one or more spotlights, anyone can improve his baby pictures.**



**ACTION PORTRAIT** made while baby sat on bathinette. One No. 2 flood lamp used on floor to illuminate background. Three baby spots: one 150-watt Dinky-Inkie in front, one 100-watt at right of camera, and one 100-watt to fill in the shadows.





# RESOLUTIONS FOR

## "WHAT'S FUN FOR '41?"

### RUMINATIONS IN THE DARKROOM

THE Dark Roominator flipped the last of the batch of prints from the short-stop into the hypo, emptied the developer tray, rinsed it ("gotta give this tray a real cleaning some day soon," he thought), dried his hands, and reached for his pipe.

"That's that for tonight," said he to himself. He frequently talked to himself in the darkroom.

"Yeah," said himself, "and what have you got to show for it?"

"Oh—. Some good stuff and some not so good. That one of the trees isn't so bad. Might make the Club Salon."

"Might be right."

"Anyway, I've improved a lot this year."

Plenty of room for it! With 1941 upon us, how about a set of resolutions?"

"That's an idea, but what good are resolutions?"

He lit his pipe, pausing after the match flared to wonder whether he'd left any of that swell new paper uncovered. He hadn't, fortunately.

"Resolutions are like empty tin cans. They give you something to kick around for a while. There's satisfaction in it."

"For" example — what resolutions?" asked himself.

"Oh, well. Let's see. Um. Suppose we start off with the high resolve to do less random shooting and more specific picture-making."

"Sounds good, but what does it mean?"

"Simply that I'm going to quit burning up scads of film in the hope that one shot of any given subject can be noddled in the enlarger to produce a picture."

"Dear, dear. That's quite a resolve. You mean you're going to plan your pictures?"

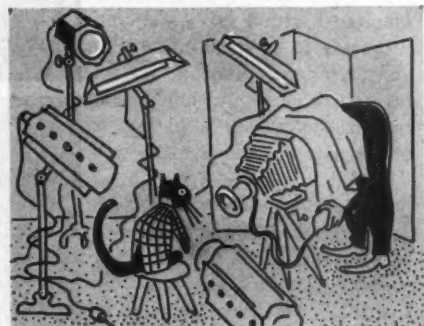
"Well, some of them—yes. But even when I'm out on a picture prowl, I'm going to hold my fire until I see something that really interests me. And then I'm going to try to compose it decently, then and there, so that I won't have to force the composition when I get the film in the enlarger."

"My, my. That's no resolution. It's a revolution. Kick it around for a while, though. Won't do any harm. Next?"

"Well, suppose we take up the kind of pictures to make. Any suggestions?"



RESOLUTION: "To quit making pictures for salon judges and start being yourself."



"—NOT to make any picture of any kitten or any dog dressed up in funny clothes!"



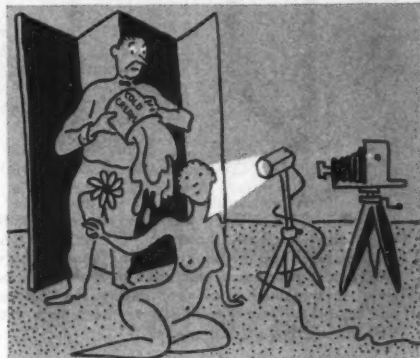
"TO REFRAIN from making any picture of anybody dressed up like a thug, or pointing a gun ominously."

# A HAPPY NEW YEAR

BY CLAYTON WOODMAN



"RESOLVED THAT no picture shall be made of anybody, male or female, posed as an underworld drunk with empty bottle on table, and a cigarette stuck to lower lip."



"NO MORE greased nudes holding artificial flowers."



"—AND NO more bums on park benches."

"Sure. I think you're old enough now to cut out some of the copy-cat stuff. Such as making a close-up of Grace holding a tennis racket so that her face is covered with a cross-hatch of shadows."

"Okay. Isn't very attractive anyway. But salon judges still like it."

"Aha! That bring up another solution. To wit—quit making pictures for salon judges and start being yourself. If the judges can't appreciate what you do, that's their hard luck."

"Sure, sure. Don't get kuffy. . . . Very well. To mine own self I shall be true, so help me Daguerre."

"Applause here. Any more resolutions?"

"I hereby highly resolve not to make any picture of any kitten or any dog dressed up in funny clothes, or posed in a boot, or otherwise forced into any cute set-up."

"Amen. It is hereby resolved. Next?"

"I shall refrain from making any picture of anybody dressed up like a thug, pointing a gun ominously in the general direction of the camera."

"Right—and I've a topper for that. No picture shall be made of anybody, male or female, posed as an underworld drunk, with empty bottle on table, cigarette stuck to lower lip, and an expression of 'Gawsh, ain't I tough' on his mug."

"Funny thing. . . . most of us have to try one or two shots like that before we grow up."

"Might call it the sophomore, or pimple, stage of photography, huh?"

"Might be right. Or did we say that before?"

"We all, I think I can safely resolve not to do any greased nudes."

"Especially greased nudes with a hoop or a vawse or an artificial flower?"

"Especially. . . . And no more bums on park benches."

"I'll endorse that. Now, how about something constructive? You know, the aspirad astra stuff."

"That's not so easy. But I can think of one, and it's kind of all-inclusive."

"Proceed."

"Well, suppose I put it this way. Let's keep the old eye on the end, not the means. In other words, worry less about formulae, and gadgets, and machinery, and concentrate on the idea of the picture, the picture itself."

(Page 96, please)

LOOK AT THE  
PICTURES AND CHECK  
YOUR ANSWERS

# K A M E R A

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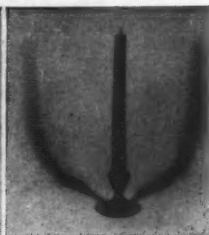
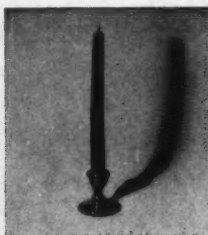
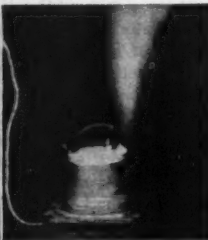


A

B

C

1. THREE DISTINCT TYPES of photography are represented in these illustrations. From the following list select the term that best identifies each type of picture and mark with the correct letter (A, B or C).  
☐ Pictorial. ☐ Surrealist. ☐ Record. ☐ Table Top. ☐ Clinical. ☐ Still Life. ☐ Nature. ☐ Animal.



A

B

2. A RED FILTER was used to bring out the clouds in picture "A". The vapor rising from the spout of the teakettle in "B" is a similar kind of photographic subject. If "B" were photographed against a dark gray background would a filter be required for that picture too? ☐ Yes. ☐ No.

3. ONLY ONE LIGHT was used in "A" as the single shadow clearly shows. In "B", which has two shadows and two highlights on the candle holder, the same light source was used in the same position. It remained stationary during the exposure and no other lamp was added to the set-up. How was this double shadow made?



4. HOW SHARP ARE YOUR EYES? Study this picture series carefully for reasons for your answers. Were these shots taken in rapid-fire sequence? ☐ Yes. ☐ No.

# K W I Z

CONDUCTED BY  
VICTOR H. WASSON

TEST YOUR  
PHOTOGRAPHIC  
KNOWLEDGE

## ANSWERS

Don't peek! Check your questions before consulting these answers.

1. "A" belongs in the surrealist school. "B" is a typical table top and "C" is a still life.

2. Filters, in themselves, do not produce cloud effects; they serve to darken the sky so that the clouds stand out against it. The steam in "B" was already against a dark background so that no filter was necessary. Outdoors, against the sky, a filter would give a better rendition of either steam or clouds.

3. Only one light was used to make both prints. In "B" a mirror was placed so as to throw light from the single lamp back onto the candlestick resulting in two shadows and highlights. Mirrors or light surfaces can often be used to illuminate shadow portions without upsetting the original effect.

4. Unless the young lady is a quick-change artist, they were not taken in rapid sequence. In No. 1 she's wearing white gloves, while in No. 2 she is not, and in No. 3 she has removed her long sleeved jacket.

5. Since newspapers are printed on both sides it is naturally impossible to print through them. It is possible, however, to print from any smooth surface. The news item was placed on a flat surface and covered with a piece of contrasty bromide paper, emulsion down. Light, passed through the sensitized paper, was reflected more strongly from the white newspaper than from the black printed type, thus producing the paper negative, from which the positive was made.

6. The fact that the light divisions run clear across the print would indicate that this effect was achieved during printing. Print control is correct.

7. Since the buildings in the background are quite sharp, it would appear that the camera was focussed for the wrong distance.

8. This print shows "pincushion" distortion which occurs when a lens that distorts is used with the diaphragm placed behind it. If the diaphragm were placed in front of the lens the lines would be bowed out giving barrel-shaped distortion. It is corrected by mounting two similar lenses with the diaphragm in the middle.

Score: 3 correct is fair; 5 correct is good; 7 correct is excellent.



5. NEWSPAPERS ARE PRINTED on both sides of the paper. With that fact in mind would you say that this positive and negative of a news item could be made without film or camera? ☐ Yes. ☐ No.



6



7

6. USUALLY, WHEN A CYLINDRICAL subject is lighted from the side, the tonal gradations run smoothly from light to dark. The step wedge effect on this one was produced by: ☐ Multiple exposure. ☐ Controlled lighting. ☐ Vibration. ☐ Streaky negative. ☐ Print control.

7. THE PRINCIPAL SUBJECT in this picture is certainly out of focus. What caused it? ☐ Faulty camera operation. ☐ Poor enlarging technique. ☐ Dirty lens or filter.

8. HERE'S A DOUBLE-HEADER question. This shot of a square section of a calendar is suffering from what sort of distortion: ☐ Coma. ☐ Rectilinear. ☐ Pincushion. ☐ Astigmatism. ☐ Flare. ☐ Barrel-shaped.

The distortion is caused by: ☐ Improperly placed diaphragm. ☐ Wrong focal length lens used. ☐ Bellied negative. ☐ Enlarger condensers reversed. ☐ Curved printing paper.





# ● "BEING Your SNAPSHOTS AND



"Transport Plane." Argus camera, 1/50 second, f8, Superpan Supreme film, yellow filter. FIG. 1

EVERY soldier, according to Napoleon, "carries a Marshall's baton in his knapsack." If every private is a potential general, then every snapshot is a potential salon print. At any rate, many pictures have unrecognized possibilities, and by "Being Critical" we can put them into realization.

Take a look at "Transport Plane," (Fig. 1). Because we've spent a lot of time around airports, we recognize this as the snout of a transport plane. And this time of year the idea of flying south is appealing. But what is there about this picture that suggests airplane or flight? True, there's sky and one blade of a propeller. But that's not enough. We need to see more, perhaps a suggestion of a wing, or other detail to give unity and meaning to the two seemingly unrelated shapes which now constitute the picture. There's a tremendous picture potential in any big plane.

● FIG. 2, "Restaurant Scene" proves that pictures can be taken under difficult conditions. A one-second time exposure was made with the lens wide open. Note that the Venetian blinds admitted enough light to illuminate the face of the man sitting at the far table, but that the rest of the room is left in silhouette. The weakness of the picture is the lack of a center of interest.

What's the reason for the picture? Obviously it isn't meant as a candid shot of a person dining. It's not a real "pattern" job, and it's no ad for Venetian blinds. Under the circumstances one can only assume that it was an early effort in "shooting from the hip," a



"Restaurant Scene." Indoor shot. Camera held on a table. Super X, 1 second, f4.5. FIG. 2

practice which went out of style some years ago, except as an exercise to see what a camera will and won't do.

● "FLASH PORTRAIT," (Fig. 3) presents a young lady who is undoubtedly attractive. But this doesn't prove it. First, the face is flat, front lighted, so it has no modeling; there is no appreciation of feature-contour. Two lights, unbalanced, would have worked wonders in giving this picture life. Another trouble is the distraction offered by the over-emphasized floral pattern of the davenport and by the picture and electric wire in the background. A portrait of a person should concentrate on making



"Flash Portrait." One flash on the camera. FIG. 3



# CRITICAL"

## HOW TO BETTER THEM



"Uncle Henry." Taken with a Perflex camera. Bright winter sunlight. Panatomic film, 1/100 second at f/5.6. No filter was used. FIG. 4

the quality of that person apparent. So rule out the distractions; concentrate on your subject.

• FIG. 4. Now we're really getting critical. Here's a picture of a man beside a river. He's looking down-stream and directly out of the picture. We don't know why. He is placed so that all of the emphasis lands on his almost silhouetted figure, yet he isn't doing or being anything to deserve all that attention. The light is at his back, so we cannot see his facial expression. Sky and water are almost the same tone, and the horizon cuts the picture almost squarely in half (a notably unpictorial pro-

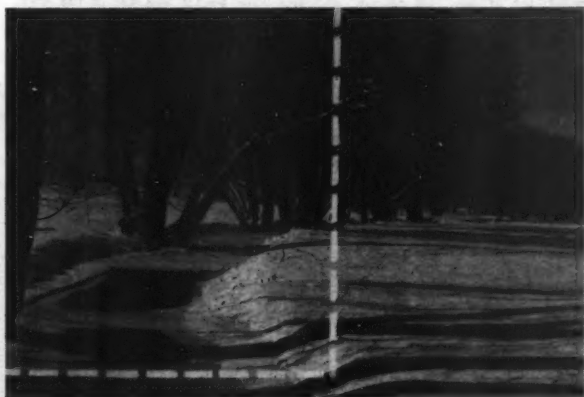


"Night on 57th St" Taken in New York City. Agfa Superpan Press film, 100 seconds at f/8. FIG. 5

cedure.) So, to sum up, the picture seems to fail because it doesn't explain why it was made, and the fault is primarily one of arrangement, or composition. A color filter to hold back the sky would have helped, too.

• "NIGHT ON 57TH ST." (Fig. 5) is a sort of experimental shot in which the author wanted to see what his camera could do. It is overexposed, as can be seen from the halation along the lower corner; about 10 seconds would have been adequate. In night shots, large, nearby lights overexpose more readily than distant pinpoints.

• IN FIG. 6, "Winter Shadows," we see what is darn near a good picture. From a strictly photographic viewpoint, it's fine — clean, crisp and well exposed. The difficulty, I suspect, is a matter of composition. If you crop off the right-hand 40 percent of the picture, you achieve a little more unity and emphasis. Also the shadow across the lower edge can be cropped out, for it's a shadow without meaning.



"Winter Shadows." By E. A. Dunning, Cortland, N. Y.

FIG. 6

In "Being Critical" of your work and that of others, look at each picture with these questions in mind, "What does the picture say? Does it say it as well as it might?"

# "HOW TO TRAIN

SNIEJOK, THE PUP, GIVES A DOG'S SIDE OF THE STORY IN PICTURES



**"CHOOSING AN OWNER.** Look 'em over carefully. Most owners think they choose us. The truth of the matter is, we choose them.... While there are only about a hundred breeds of dogs, there are a thousand breeds of owners. It is important to select a breed to suit your personality."

**"LET YOUR OWNER** feel at home. Make a quick survey of the situation, who the members of the family are, the comfortable spots in the house, etc., and start your training program at once."

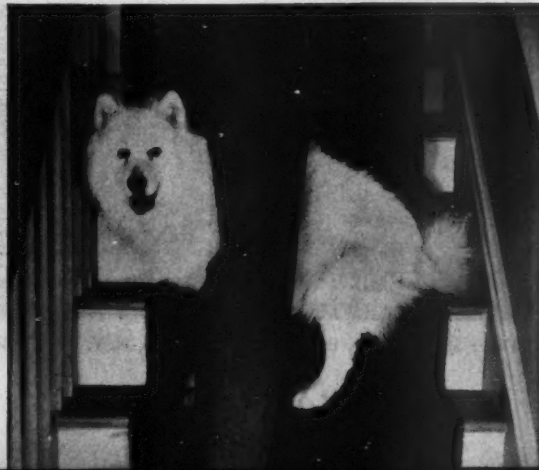


**T**WO camera fans, with their photographs of their pet Eskimo dog, "Sniejok," have produced a rare masterpiece of humorous literature in their picture book, *"How to Train Your Owner,"* published by Macmillan Co., New York.

Sniejok's white coat, emphasized by the dark markings of eyes, nose and mouth, makes him a very photogenic dog. In addition, he is a most cooperative model and apparently considers posing a delightful game invented for his special benefit. Needless to say, his owners do everything possible to encourage this attitude and are careful never to wear their "star" out by taking too many pictures at any single sitting.

William and Neill Dingledine, the authors, grew up in the Shenandoah Valley of Virginia, where their childhood animal friends included dogs, cats, rabbits, horses, pigeons, and even bantam roosters. William Dingledine took up photography at the age of twelve and earned

**"UP AND DOWN STAIRS.** Running up and down stairs is a lot of fun. Of course, at times your owner will get in the way. Train him to look out for himself. This teaches agility and self-reliance. An important requirement in training your owner is to know more than he does. This can usually be taken for granted."



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# YOUR OWNER"



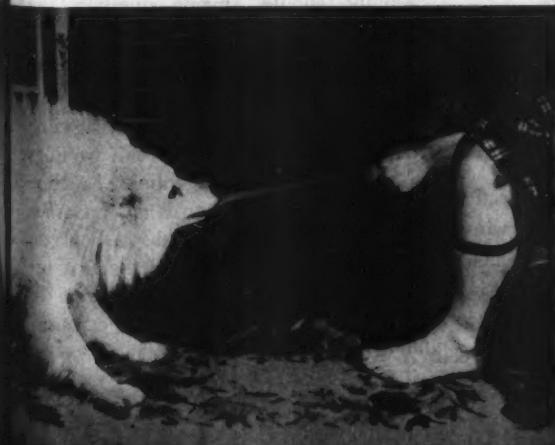
**"DESIRABLE TRAITS.** Look for an owner with kind eyes, set well apart, a mouth that smiles easily, and a pleasant-sounding voice. Such a combination usually means that the owner has a good disposition and will not be difficult to train. With all his shortcomings, man is undoubtedly our best friend."



**"BE KIND AND PATIENT.** Most owners learn slowly. Allowance must be made for the fact that you can understand more of their language than they can understand of yours. As your owner improves, reward him with an occasional pat on the head. With careful training, he can be made an ideal companion."

**"SITTING PRETTY (lower right).** If you like to be a lap dog from time to time—and most of us do, regardless of our size—you should train your owner to sit quietly. P. S.—Women's laps are more comfortable than men's."

**"MAKE DRESSING A GAME.** Most owners look upon dressing and undressing as a dull routine. You should change this by showing them that it can be made an interesting game. (What if he does have to get up fifteen minutes earlier in the morning!) If you look at him the right way, he just won't be able to resist you."



spending money taking pictures of neighbors' houses and children—houses \$1 a dozen; children \$1.50, because, he says, "they didn't hold still as well." Then followed years of little or no photographic activity.

Recently, having taken up his old hobby again, he gave his wife a modern camera and she became as much of an enthusiast as he. All of the photographs in "*How to Train Your Owner*" were taken, developed and enlarged by the Dinglelines without outside help of any kind. The project was so completely a joint one that they are not quite sure now who actually took each picture, nor who wrote the accompanying text.

● Sniejok is a Samoyede (a Siberian breed of Eskimo dog). His name is Russian for "Snowball." His trick of setting up and pleading was self-taught. While his build is not particularly adapted to this pose, he overcame that handicap by backing into corners and practicing until he could do it perfectly anywhere. Just what prompted him to do this the Dinglelines do not know, but they admit it is highly effective in getting what he wants—and also in getting interesting pictures.

Although Sniejok is nearly four years old, he retains his puppy playfulness. He loves company and insists on greeting each guest personally. When a conversation is going on, he often appears to follow every word, turning his head in the direction of the speaker. But if several people start talking at once, he gives it up as a bad job and decides to take a nap.

As might be expected from his arctic ancestry, Sniejok's favorite season is winter, and he is never happier than when romping in the snow. He is not clipped in summer but suffers no more from the heat than most people. On hot days he loves

to eat ice cubes, which he crunches between his teeth with great relish.

The Dinglelines take most of their photographs with a 3¼x4¼" Speed Graphic. It has a conventional Zeiss Tessar f4.5 lens, of 13.5 cm. focal length.

The focal plane shutter was used for all of the shots in the book. For the indoor pictures, the lens was usually stopped down to f5.6 or f8; the shutter setting ranged from 1/65 to 1/110 of a second.

Due to the fact that the dog would frequently move several feet between the time of focusing the camera and the taking of the picture, adequate depth of focus was found to be more important than extremely high shutter speed. Agfa Triple S Pan cut film was used for the indoor photographs and Defender XF Pan for those taken outdoors.

Lighting equipment consisted of two 500 watt flood lights, T-20 type. Flood lights were selected in preference to flash because the success of the picture was directly dependent on the pose and expression of the dog, and it was felt the moment to snap the shutter could be judged better under constant illumination. The only picture taken by flash is one in which the dog is actually asleep; here floodlights were impractical because they would always wake him up.

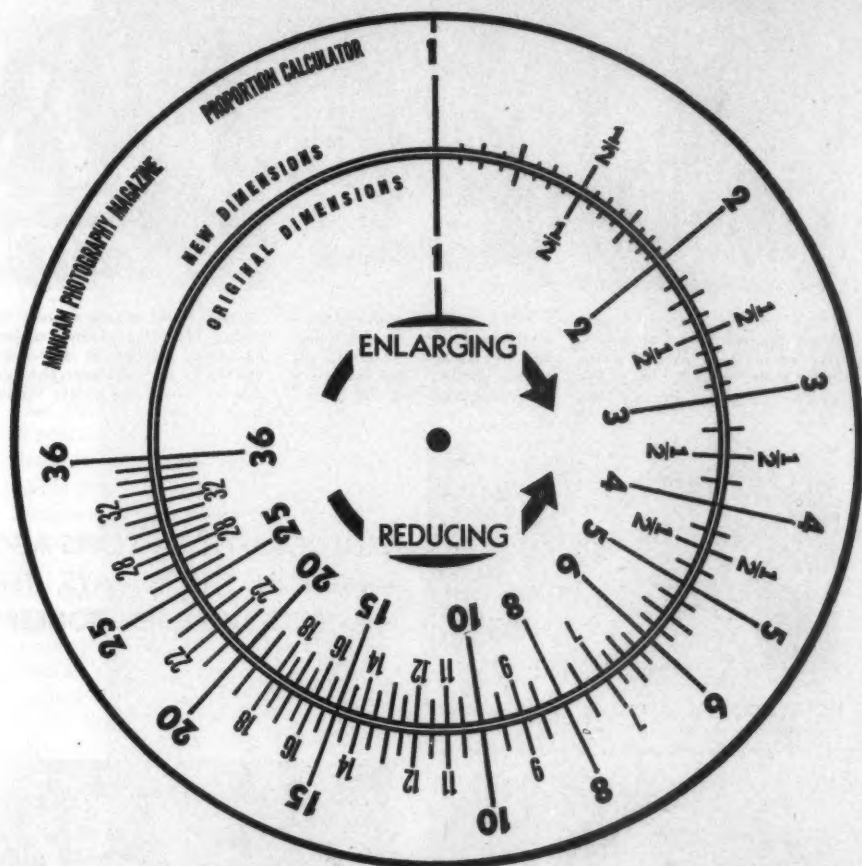
Finally, should anyone question the necessity for the book "*How to Train Your Owner*," he need only refer to Sniejok's own words, "For years dog owners have been writing books and magazine articles on how to train us. As if we dogs are the ones who need training! Nine times out of ten the shoe is on the other paw. What is really needed is a book on training dog owners. . . And the first requirement in training your owner is to know more than he does. . . This can usually be taken for granted."

# MINICAM'S

## PROPORTIONAL CALCULATOR

# DIAL

READY FOR USE—SIMPLY CUT OUT AND PASTE ON CARDBOARD



**T**HIS proportion calculator answers questions such as:

(1) What size paper is best proportioned for making projection prints from a negative of a certain size?

(2) In enlarging a negative, the width of the finished print is known. What will be the length necessary to include the whole length of the negative? Or when

the length is known, what will be the width?

(3) How much greater will the area of an enlargement be than the area of the negative?

(4) What size film is best suited for making a copy negative of an area of a known size?

(5) In reducing or copying, the width  
(Page 98, please)



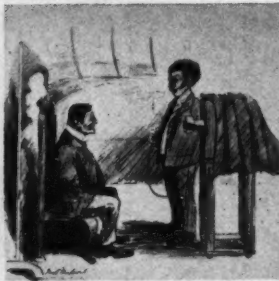
# "HOLD STILL *and* LOOK PURTY"

THEY SAID, OR, "REMAIN RIGID FOR THE NEXT 20 TO 30 SECONDS!"

BY IVAN SANDROFF



**POSING** WAS an adventure, when the early daguerrotypist pointed his bulky camera at the stiffly-posed subject. Note the elaborately stuffy backgrounds.



**JOKES ABOUT** photographers were heard from the beginning. The photographer cautions the smiling model: "Not so much sunshine—you'll fog the plate."



**LONG TIME** exposures were the rule. Here the grumpy subject is being placed in the head clamp by the daguerrotypist's assistant. Note the ornate tripod.



**HONEYMOONERS** at Niagara Falls were steady customers for the camera long before the invention of roll film turned tourists into photographers.

**PHOTOGRAPHY 100 YEARS AGO**  
—EVEN IN THOSE DAYS, THE  
AMATEURS WERE THE PIONEERS



"**WILL REMAIN** in this place only one week," reads the sign on this traveling studio-darkroom on wheels. Framed samples stud the wagon's side. Photographer and camera are in the doorway.



**TRAVELING** photographers who couldn't afford a wagon-studio, packed background and camera on their back, setting up wherever a customer appeared. Diffused daylight was only illumination.



**P**AINTING, from now on, is dead!" With these words, Delaroche, the famous French painter, on a momentous day in 1839, greeted the first Daguerreotype.

But the artists didn't take the threat of the new invention lying down. A German newspaper indicted the whole photographic process as downright sacrilege.

Amateur experimenters—even as now—first sneaked materials into closet and bathroom and flabbergasted apprehensive wives and mothers with the new magic. "Eureka," they shrieked, "It works." And so photography was born.

Public reaction was equally amazing. A copper daguerreotype of St. Paul's Church—one of the first local shots—was placed on exhibition in a Broadway window. Hundreds of beaver-hatted gentlemen in high stocks and ladies in crackling bombazine and poke bonnets came to see for themselves, stared long at the mirror-like surface. The image did not go away. "Strange!" they whispered. "Impossible! Amazing! Wonderful!" The *New York Morning Herald* reported. . . "It is the first time that the rays of the sun were ever caught on this continent and imprisoned, in all their glory and beauty, in a morocco case, with golden clasps."

Sitting for a daguerreotype in the early days, you were less a subject than victim. It was an ordeal. Your head was screwed

to the back of a chair with a device like something left over from medieval torture racks; your face was given a dry white-wash with a fine powder and you were exposed a full half hour in glaring sunlight with your eyes clamped shut!

Improvements in the process shortened exposures up to 15 or 20 seconds, and the "art" was ready to spring on the unsuspecting public. Photographers seeking business—there were nearly a thousand around 1850—used a heavy emotional approach. Typical of such blandishments was an advertisement of the versatile Samuel Morse, (who was both daguerreotypist and portrait painter and later topped everything else he did by inventing telegraphy) in the *New York Sun*!

#### TO THOSE WHO LOVE—

How cold must be the heart that does not love. How fickle the heart that wishes not to keep the memory of the loved ones for after-times. Such cold and fickle hearts we do not address. But all others are advised to procure miniatures at Prof. Morse's Daguerreotype Establishment.

Other photographers boomed the new magic as balm to parental worries. "These photographic pictures," they avowed, "are often the direct means of facilitating the discovery of elopement subjects, of more easily tracing them to

their proposed destination; of searching for female runaways; also of lending timely aid to the grieved father and mother in securing the heartless seducer of her who was the joy, life and flower of a happy household."

● NOT ALL shadows which appeared in the name of photography were works of art, despite recent enthusiasm for the work of our grandfathers. John Quincy Adams' diary testifies that in 1843 "... four daguerreotype likenesses of my head were taken, two of them jointly with the head of Mr. Bacon—all hideous."

The crab-apple face of Daniel Webster also defied the camera obscura. When the finished plate was flashed before him, the great orator shuddered, turned away, then said stiffly: "I am not to judge my own looks; it is for you to judge and you must decide whether the work is worthy of your reputation."

The headaches of photographers were also frequent. Until the late fifties, you didn't re-touch the negatives. There weren't any. You retouched the subject! Bogardus, a noted old-timer, mentions that no photographic artist worth his acid lacked sticking wax with which to pin back Gable ears, or cotton wads, called "plumpers" by the ladies, to fill out hollow cheeks. The "immobilizer," or head rest, was, of course, an integral part of a photographic studio until the advent of fast lenses and ditto films.

Wasp-waisted ladies frequently worked themselves—and the photographer—into fits of nervous prostration long before their appointment. Gentlemen were uneasy at times, too. At least one book gave advice to sitters and warned: "*Preparing and dreading* this photographic event a month beforehand, is always succeeded with unfavorable and unsatisfactory results."

Regulation dress for men was a black suit and white "weskit." Tradition of the times demanded a centre part in the hair, wetly scalloped with bear grease. When the photographer took a deep breath, uttered a silent prayer and the word "Go!" even strong, healthy men clutched chair

arm, or massive watch chain, struck a smart attitude and held on for dear life.

Dust off your ancestors in the light and see how firmly they believed it was not enough to be what one was. The photograph had to show it. A soldier gave a final twirl of his handlebar and glared fiercely forward; firm friends clasped hands and stared through the depths of the camera; husband and wife showed true love by looking hard at each other, the wife, of course, always gazing up at her spouse, stalwart on his Congress-gaitered feet.

● THE FIRST photographic humor naturally sprang out of these times. Critical amateurs—even as now—had definite opinions of good technique. The male lensman was apt to say: "What broad handling! What aerial perspective!" Women were fond of: "How sweetly pretty!"

Following the Civil War, many photographers, inspired by the great Matthew Brady, boldly struck out for the deep South and West where no lensman had penetrated before. Veterans of Shiloh and Appomattox took this art over new trails, walking far from centers supplying chemicals and other necessary materials.

Let's look at one of these footlose pioneers. A garrulous, hearty person, usually with a drooping moustache, battered clothes and a pork-pie hat clamped on his unkempt hair, he not only lacked proper facilities, but knowledge as well. He staggered about with a heavy, cumbersome camera, darkroom and wet-plate making equipment. Under that load he looked more like the Hunchback of Notre Dame with the Cathedral on his back than a "Practitioner of the New Art of Photography." Others used a van which served as darkroom, kitchen, and portrait gallery all in one.

● THERE WERE NO photofinishers in those days. The pioneer had to be something of a chemist to get along. When

chemicals couldn't be had, he found the pantry larder useful. Among the substances experimented with and recommended as driers for collodion plates during the 1800's were sugar, brown and white, raspberry vinegar, malt, molasses, tea, beer, coffee and even tobacco!

He had his cute tricks, though, even if he didn't make much money. When treated hospitably he might even stroll into the orchard, attach a negative to a green apple with a thin solution of gelatin and turn the apple toward the sun. When it was ripe, he soaked off the film in water and handed over the apple, bearing a picture of the lady of the house.

There was no such thing as a snapshot in those days. The heavy, long-focus lens resembled a slice of stove pipe. Apparently light entered, took a nap, and if you waited long enough, finally crawled up to the plate. Infants, now an outstanding source of profit and pleasure to photographers, were a pain in the neck. They couldn't keep still long enough. Few pictures were taken of store fronts, for the image on tintypes was always reversed, as with the daguerreotype. Army officers wore their swords on the right so as to appear on the left when the final print was made.

● **HOW SLOWLY** the public accepted photography is indicated by a story from Madison County, New York. During the late 1800's, a traveling operator set up shop in his van, hung out his shingle, dusted off his lens. Two young ladies came in for a sitting, were taken and told to wait while the operator disappeared into his dark room to develop the plate. One of the ladies, curious as to what the photographer had seen behind the mysterious black hood of the camera, took a quick peek. She was startled to find her friend's image upside down on the focusing glass. "Oh, Katy," she shrieked, "you are standing on your head!" Katy leaped from her chair in confusion and both of them indignantly ran away. Word spread among the villagers. Angry citizens, brandishing fists and clubs, marched on the

innocent photographer. A brief scurmish and the van and all its equipment went crashing into a ravine. The photographer was lucky to get away with his life.

George Parkes, another old-timer, has left an incident of the Seventies in the roaring West. With two assistants, he took over a tintype concession at a Texas town fair. At the end of a busy day, four cowmen, gloriously drunk, staggered into the tent with drawn guns, demanding to have "picters tuck."

It was much too dark for an exposure, but Parkes was taking no chances. Quickly he ran through the day's rejects and selected a group of four. A few fake turns behind the camera and he handed over the completed tintypes. The cowmen paid, too drunk to notice the substitution.

At sunrise the next morning, he and his assistants were awakened by a fusillade of shots which punctured the tent. Rolling out to safety, they watched the destruction of Parke's equipment. Rangers restored order, made the cowhands pay for the damage less the cost of the tintypes. What riled them, they explained, wasn't that two of the tintypes failed to register well, but that two others portrayed some bemused Negro laborers.

● **PROBABLY** the most typical story is one told by a young lady who returned from a visit out West. There wasn't much out there at the time but prairie and wind.

"Nothing would do my sister but we must go up and have our pictures taken. There was a photographer there, and he was a good one. I sat first. He arranged me in the chair, an old wooden one, and placed my head in the rest, which was an old pitchfork with the sharp ends of the tines broken off. Then what do you suppose the brute did? Well, he fixed his old camera and then took a huge quid of tobacco out of his mouth, spat against the wall higher than his head and said: 'Now you look right at that, mum, hold still and look purty!'"





**(A)** Underexposure.  
Normal Development.



**(B)** Underexposure.  
Overdevelopment.

THESE EIGHT reproductions illustrate the appearance of negatives which have been given various degrees of exposure and development. Use this chart as a guide, comparing your negatives with these examples to discover whether it is exposure or development that is needed to be changed to get better results. Always keep in mind that C is the perfect portrait negative, normally developed and normally exposed. When in doubt make this your standard of contrast and density.

FIG. 1



**(C)** Normal Exposure.  
Normal Development.



**(D)** Normal Exposure.  
Overdevelopment.



**(E)** Normal Exposure.  
Underdevelopment.



**(F)** Overexposure.  
Normal Development.



**(G)** Overexposure.  
Overdevelopment.



**(H)** Overexposure.  
Underdevelopment.



# HOW TO *Read* YOUR NEGATIVES

WRITTEN AND ILLUSTRATED BY LLOYD E. VARDEN, A.R.P.S.

**W**HENEVER you have trouble in getting good prints, *i. e.*, prints with full scale, good black and plenty detail—don't always blame the enlarger, the paper, the paper developer or perhaps yourself. Take a look at the negative.

Of course you have to know what to look for in the negative in order to be able to analyze it. How many times have you caught yourself saying, "There's something wrong with this negative, but just what it is I don't know."

It is really easy to understand a negative by visual examination. A look at the negative as a whole will tell you a lot. Then inspect (1) *the shadow areas*, (2) *the middle densities* and (3) *the highlight regions*.

Most negatives these days are printed by projection so our first interest is the type of negative that will produce the best enlargement.

Generally sharpness and detail are best retained in a negative by keeping exposure and developing at a minimum. This also limits graininess.

For contact printing a negative should be fully exposed and fully developed; it is generally heavier in appearance than a negative for enlargement. Fig. 4 illustrates a negative correctly exposed and developed for contact printing. Compare it with the lighter-appearing Fig. 1, (C).

Theoretically there are nine possible stages, eight of which are illustrated on the opposite page (see Fig. 1). Study each one of your negatives to determine which of the classifications it falls into:

1. Negative underexposed and underdeveloped (not illustrated)  
normally developed (A)  
overdeveloped (B)
2. Negative normally exposed and underdeveloped (E)  
normally developed (C a perfect negative)  
overdeveloped (D)
3. Negative overexposed and underdeveloped (H)  
normally developed (F)  
overdeveloped (G)

The question remains: "How can one tell by looking at a negative into which of the above categories it falls."

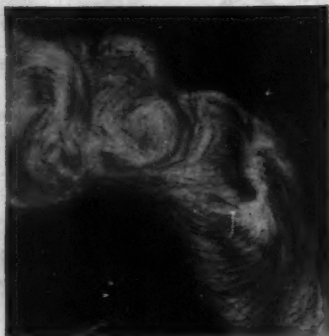
To tell if a negative is underexposed examine the *shadow regions*. If a weak density is present the camera exposure was all right; but if these areas are absolutely void of image then exposure was insufficient. (1) An underexposed negative if underdeveloped will be weak over all. (2) If, normally developed the middle densities and highlights will appear fairly



A GOOD NEGATIVE is not too dense. If a printed page in good light can be seen clearly through it, the density is about right. Negatives for contact printing may be denser. FIG. 2



Overexposed shadow area is full of detail but too dense. FIG. 3-A



Normally exposed shadow area has good tone separation also evident throughout normal negative. FIG. 3-B



Underexposed shadow area shows only traces of detail, with all detail absent in deepest shadows. FIG. 3-C

strong unless the underexposure has been very extreme. (3) If overdeveloped the highlights will appear rather dense, but the shadows will still be *clear*. (There are cases where a film will gain shadow detail upon prolonged development, but this cannot help serious underexposure to any appreciable extent).

A normally exposed negative when properly developed exhibits full shadow detail and open highlights. There is a smooth transition of densities throughout the negative, but brightness differences in the subject are distinctly separated. (1) A properly exposed negative when underdeveloped will lack brilliance and the high-



COMPARE THIS NEGATIVE with Fig. 1-C. This negative has been fully exposed and developed slightly longer than Fig. 1-C, which was given normal exposure and development for a portrait negative to be printed by enlargement. The negative in this illustration is best suited to contact printing, not enlarging. FIG. 4



FOG, IF CAUSED by uniform exposure to light, or if caused by development, appears as a grayish veil of even density over the entire image area. This fog density raises the density level of the shadow areas comparatively more than the highlights, reduces detail (tone separation) in middle tones and shadows, and yields very "flat" prints. FIG. 5



Normally exposed highlight areas, when underdeveloped as in this illustration lack tone separation, and are "flat." FIG. 6-A



Normally exposed highlight areas, given normal development, show delicate but distinct separation of tones, as illustrated here. FIG. 6-B



Overdevelopment of normally exposed highlight areas, blocks up these areas. FIG. 6-C



Overexposure and underdevelopment of the highlight areas somewhat improves the gradation, but there is no gain in tone separation. FIG. 7-A



Underexposed highlight areas (blackest part of the negative) when normally developed show good detail but densities are too low. FIG. 7-B



Overexposed highlight areas, given normal development "block up" like this. FIG. 7-C

lights will be thin and flat in contrast. (2) If overdeveloped the negative will appear dense in the highlights and of high general contrast.

An overexposed negative is best recognized by the overall flatness (Fig. 1-F) character it exhibits. (1) If underdeveloped (Fig. 1-H) it will appear unusually flat but will have density even in the deep shadow areas. (2) If overdeveloped (Fig. 1-G) the negative will have a high general density, thick shadows and blocked-up highlights.

Negatives are often spoiled by light fog or fog produced in development. Such fog causes a veiling over of the negative, reducing the clarity of the shadows and filling in the fine density separations that should exist in the middle tones and highlights. (Fig. 5).

(See Fig. 1 on page 78).

#### A: Underexposure and Normal Development

The more exposure a photographic emulsion receives the higher will be the density produced upon development, within certain limits. It is logical then that a negative which did not receive sufficient exposure in the camera will not have sufficiently high density values upon development. It is also logical that the lack in density will be greater in the shadow regions of an object photographed than in its highlight regions. This is demonstrated in the negative (Fig. 1-A), which was underexposed but developed normally. Note the absence of tones in the shadow areas and the low values of density in the highlights.

#### B. Underexposure and Overdevelopment

The quality of an underexposed negative can be improved somewhat by extending the time of development beyond normal. In this manner the highlight and middle tone densities are increased; however, even forced development will not yield any densities in the shadows.

#### C: Normal Exposure and Normal Development

This is the type of negative any photographer would like to have for projection printing. Note the full scale of tones, ranging from high maximum to low minimum densities. Yet there is a smooth transition from one density value to the other with full detail in shadows (hair), middletones and highlights (left cheek and ear).

Results like this can be obtained only by proper exposure and development. Fig. 1-C

was exposed and developed for enlarging. Compare it with Fig. 4, a negative produced for contact printing. Fig. 1-C is slightly thinner and less brilliant than Fig. 4.

Negatives of somewhat lesser brilliance are preferred for projection printing because most enlargers are equipped with condenser lens systems which tend to increase the contrast of the image and secondly, because graininess is kept at a minimum if development is reduced.

#### D: Normal Exposure and Overdevelopment

An increase in the time of development effects an increase in image contrast, that means an increase in the separation between maximum and minimum density. This will be evident by comparing the above overdeveloped negative with the one shown in Fig. 1-C. Both received the same exposure.

Not only is the maximum density of the overdeveloped negative much higher but there is also a lack of detail in the highlights; they are "blocked up." The low densities, on the other hand, are hardly different in the normal and overdeveloped negative, at least the difference is much smaller than for the high density values.

#### E: Normal Exposure and Underdevelopment

A negative that was developed less than normal but which received full exposure has about this appearance. It is most conspicuous by the "flat" gradation and lack of contrast. There is too small a separation in density between highlights and shadows, but the fact that *there is a definite recording of tones in the shadow regions* indicates that the negative was underdeveloped and not underexposed. In the latter case there would be no tone separation at all in the shadows.

#### F: Overexposure and Normal Development

A negative that was overexposed can be recognized by its high overall density and the lack of detail in the highlights. Note in this example how comparatively high the densities are in the shadow portions. This distinguishes an overexposed negative from a normally exposed but overdeveloped example.

#### G: Overexposure and Overdevelopment

A combination of the effects of overexposure and overdevelopment gives results such as this. Extremely high maximum density, complete lack of detail in highlights and middletones and high densities in the shadows.

#### H: Overexposure and Underdevelopment

Overexposure can be compensated for somewhat by less than normal development. Thereby the higher densities can be reduced to more normal values but at the same time a sacrifice in image contrast is unavoidable.

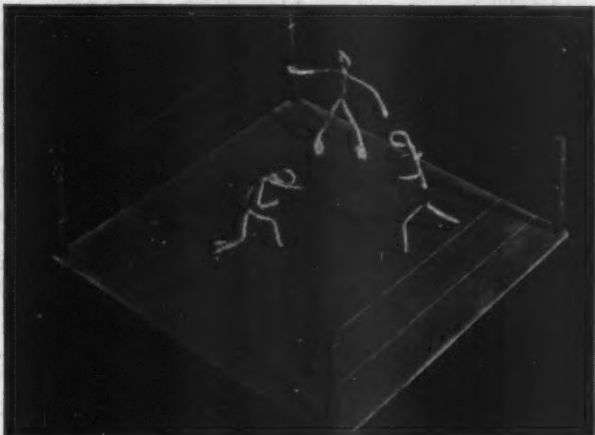
# CARTOONING WITH A CAMERA

## WIRE PIPE-CLEANERS PROVIDE CHARACTERS

• A PACKAGE OF WIRE PIPE-cleaners, from the neighborhood tobacco counter, furnishes material for creating cartoon figures to be posed in comic or story-telling situations. Boxers, skaters, photographers and other characters can easily be created for the camera. Black ink colors hands and feet, or the entire figure can be black if it is to be filmed against a light background. Paper clips make skates. A bit of untwisted twine, pasted on the head of the figure,

creates a long-haired musician. Two ordinary reading lamps serve for illumination. Use *without* reflectors for crisp shadows. If the lamps are unfrosted, so much the better.

1. "AT THE BELL, the pipe-cleaner combatants come out of their corners, the one in the white trunks crouching low."



2. "ONE FIGHTER is on the ropes. The referee watches closely. The champ heaves a terrific right to the chin!"



3. "'—9—10—out.' The referee's arm counts out the fallen fighter.—'The winnah!'"



# PHOTO DATA

CLIP SHEET FOR PERMANENT REFERENCE

## Handy Conversion Tables

The following tables help convert formulas from total number of grains to fractions of an ounce so that the necessary standard weights are easily selected.

The avoirdupois systems of weights and liquid measure are much more complicated to figure than the metric systems. Nevertheless the avoirdupois units are widely used in the United States and many formulas are still published in avoirdupois units only.

In addition some useful older formulas give a weight that is actually a large fraction of an ounce stated in terms of the number of grains it weighs. The most widely used inexpensive balances have a

bar that is calibrated for only 50 grains. A weight of, say, 381 grains requires weighing with the heavier loose weights marked in large fractions of an ounce ( $\frac{1}{4}$ -oz.,  $\frac{1}{2}$ -oz., etc.)

The first part lists the weights commonly used, and their value in grains. The second part lists some common quantities in terms of ounces, fractions and grains. For values between those listed in left-hand column of Weight Selecting Table add required number of grains to the right-hand column figures opposite the nearest value below value desired. Thus, for 381 grains: Opposite 380 in the left column, you find " $\frac{3}{4}$  oz., 52 grains." Add 1 grain, making  $\frac{3}{4}$  oz., 53 grains.

### Weight Selecting Table

TOTAL GRAINS (As given in formulas)	Balance Weight Combinations* Ounces Grains
110	$\frac{1}{4}$ —
120	$\frac{1}{4}$ 15
125	$\frac{1}{4}$ 20
130	$\frac{1}{4}$ 25
140	$\frac{1}{4}$ 30
150	$\frac{1}{4}$ 40
160	$\frac{1}{4}$ 50
170	$\frac{1}{4}$ 60
175	$\frac{1}{4}$ 65
180	$\frac{1}{4}$ 70
190	$\frac{1}{4}$ 80
200	$\frac{1}{4}$ 90
210	$\frac{1}{4}$ 100
220	$\frac{1}{2}$ 1
225	$\frac{1}{2}$ 6
230	$\frac{1}{2}$ 11
240	$\frac{1}{2}$ 21
250	$\frac{1}{2}$ 31
260	$\frac{1}{2}$ 41
270	$\frac{1}{2}$ 51
275	$\frac{1}{2}$ 56
280	$\frac{1}{2}$ 61
290	$\frac{1}{2}$ 71
300	$\frac{1}{2}$ 81
310	$\frac{1}{2}$ 91
320	$\frac{1}{2}$ 101
325	$\frac{1}{2}$ 106
330	$\frac{3}{4}$ 2
340	$\frac{3}{4}$ 12
350	$\frac{3}{4}$ 22
360	$\frac{3}{4}$ 32
370	$\frac{3}{4}$ 42
375	$\frac{3}{4}$ 47
380	$\frac{3}{4}$ 52
390	$\frac{3}{4}$ 62
400	$\frac{3}{4}$ 72
410	$\frac{3}{4}$ 82
420	$\frac{3}{4}$ 92
425	$\frac{3}{4}$ 97
430	$\frac{3}{4}$ 102
437½	$\frac{3}{4}$ —
450	$\frac{1}{2}$ 12½
460	$\frac{1}{2}$ 72
500	$\frac{1}{4}$ 3
550	$\frac{1}{4}$ 53
600	$\frac{1}{4}$ 103
650	$\frac{1}{4}$ 44
700	$\frac{1}{2}$ 94
750	$\frac{1}{2}$ 34
800	$\frac{1}{2}$ 84
850	$\frac{1}{2}$ 25
900	$\frac{1}{2}$ 75
950	$\frac{1}{2}$ 15
1000	$\frac{1}{2}$ 2½

\*NOTE—Small fractions have been ignored.

### Weight Conversion Table (Avoirdupois)

Weights Commonly Used	Value in Grains	Weights Commonly Used	Value in Grains
3 Ounces	1312½	$\frac{3}{4}$ Ounce	328.2
2 Ounces	875	$\frac{1}{2}$ Ounce	218.8
1 Ounce	437½	$\frac{1}{4}$ Ounce	109.4

### Liquid Volume Conversion Tables

Minims, Drams, Ounces to Cc's		Cc's to Ounces and Minims	
Minims	Cc.	Cc.	Minims
1	.059	1	16.9
2	.118	2	33.8
3	.178	3	50.7
4	.237	4	67.6
5	.296	5	84.5
6	.355	6	101
7	.414	7	118
8	.474	8	138
9	.533	9	152
10	.592	10	169
11	.651	11	186
12	.710	12	203
13	.770	13	220
14	.829	14	237
15	.888	15	253
16	.947	16	270
17	1.006	17	287
18	1.064	18	307
19	1.125	19	321
20	1.184	20	338
30	1.78	30	1 ounce 27
40	2.37	40	1 195
60=1 dram	3.55	50	1 345
2	7.10	60	2 65
3	10.66	70	2 223
4	14.21	80	2 391
5	17.76	90	3 80
6	21.31	100	3 249
7	24.87	500	17 287
8=1 oz.	28.42	1000	35 94

### Metric-English Conversion Chart (Weight)

To get these units

	Grains	Ounces	Grams
Grains	1	0.002285	0.06471
Ounces	437½	1	28.349
Grams	15.432	0.03527	1

Multiply by these figures

Multiply by these figures

Multiply by these figures

NOT ounces ilar un

Multiply by these figures

# PHOTO DATA

CLIP SHEET FOR PERMANENT REFERENCE

MINICAM  
PHOTOGRAPHY

## Handy Conversion Charts

The following tabular charts are useful in quickly determining the number of larger or smaller units of measure in a unit given in formula. All the numbers in a single vertical column refer to the unit of measure at the top of that column.

In the table for "Apothecaries Weight" or "Troy Weight" (used in British formulas and in some older manuals printed in the United States) under the vertical heading "Grains" we see at a glance by referring to the names at the left, how many grains are in 1 scruple, dram, etc.

Convert a given number of drams (or any other unit) into larger or smaller units, as follows: In the vertical column at extreme left, select the unit in which the known quantity is given. In the horizontal column, select the unit into which the quantity is to be converted. Where these intersect in the body of the table, the conversion number (either a whole number or a fraction) is found.

For example, an old formula in Troy weight contains 6 drams of sodium carbonate. To convert this into grains for convenient weighing, locate the unit "Dram" in LEFT-HAND column. Opposite this, in the vertical column beneath "Grains" read 60.  $3 \times 60$  grains = 180 grains.

To get these units

TROY UNITS	Grains	Scruples	Drams	Ounces	Pounds
Grains....	1	0.05 1/20	0.01666 1/60	0.002083 1/480	0.0001735 1/5760
Scruples....	20	1	0.333 1/3	0.04166 1/24	0.00347 1/288
Drams....	60	3	1	0.1250 1/8	0.010416 1/96
Ounces....	480	24	8	1	0.0833 1/12
Pounds....	5760	288	96	12	1

To get these units

LIQUID MEASURE	Minims	Drams	Ounces	Pints	Quarts
Minims....	1	0.016 1/60	0.0020 1/48	0.00013 1/768	—
Drams....	60	1	0.125 1/8	0.00781 1/128	—
Ounces....	480	8	1	0.0625 1/16	0.0312 1/32
Pints....	7,680	128	16	1	0.5 1/2
Quarts....	15,360	256	32	2	1

NOTE—In above table, remember that drams and ounces are fluid units, and not to be confused with similar units in apothecaries and avoirdupois tables.

To get these units

Liquid Measure	Minims	Drams	Ounces	Cc.
Minims....	1	0.016	0.002	0.061
Drams....	60	1	0.125	3.696
Ounces....	480	8	1	29.57
Cc....	16.23	0.270	0.033	1

To get these units

AVOIRDUPOIS WEIGHT	Grains	Ounces	Pounds
Grains.....	1	0.002285	—
Ounces.....	437 1/2	1	0.0625 1/16
Pounds.....	7000	16	1

In several of the above tables, values not listed can be found by multiplying those given by 10, 100, etc., and then by adding for intermediate values. As an example: How many grains are there in 45 grains? The number 45 is equivalent to 40 plus 5. From the table, 4 grains = 0.2592 grams. 5 grains = 0.324 grams. Thus 45 grains =  $10 \times 0.2592$  grams plus 0.324 grams, or a total of 2.916 grams.

Small Weight Conversion Tables

Grams to Grains	Grains to Grams
Grams	Grains
1 ..... 15.4	1 ..... .064
2 ..... 30.8	2 ..... .129
3 ..... 46.3	3 ..... .194
4 ..... 61.7	4 ..... .259
5 ..... 77.1	5 ..... .324
6 ..... 92.6	6 ..... .388
7 ..... 108.	7 ..... .453
8 ..... 123.5	8 ..... .518
9 ..... 138.9	9 ..... .583
10 ..... 154.3	10 ..... .648
11 ..... 169.8	11 ..... .713
12 ..... 185.2	12 ..... .775
13 ..... 200.6	13 ..... .842
14 ..... 216.	14 ..... .907
15 ..... 231.4	15 ..... .972
16 ..... 246.9	16 ..... 1.037
17 ..... 262.4	17 ..... 1.102
18 ..... 277.8	18 ..... 1.167
19 ..... 293.2	19 ..... 1.232
20 ..... 308.6	20 ..... 1.296

Emergency Chemical-Balance Weights

Weights for use with darkroom balances sometimes become lost, or weights in addition to those supplied with the balance may be desired. In such cases, coins make satisfactory emergency weights. While their actual weight often is some odd number of grams or grains, they usually can be assigned a "round-number" value that is close enough for most practical purposes. Do not use badly-worn coins.

	GRAMS		GRAINS
U. S. COIN	Actual Weight	"Round-number" Weight	Actual Weight
Dime .....	2 1/2 gm.	2 1/2 gm.	38 1/2 gr. 40 gr.
Cent .....	3.1 gm.	3 gm.	48 gr. 50 gr.
Nickel .....	5 gm.	5 gm.	77 gr. 75 gr.
Quarter .....	4 1/4 gm.	4 1/4 gm.	96.4 gr. 100 gr.
Half-dollar .....	12 1/2 gm.	12 1/2 gm.	193 gr. 200 gr.
Silver dollar .....	26.7 gm.	27 gm.	412.5 gr. 400 gr.



By J. H. SAMMIS, A.R.P.S.

**PUTTING YOUR FOOT INTO IT**—Did you know that sodium thiosulfate (hypo) solution is used in the treatment of athlete's foot? Be sure to use fresh hypo, though; you wouldn't want your foot in a worse fix than it's already in.

**ONE SALON CONTRIBUTOR** thought when he saw *Snow White* and the Seven Dwarfs that they were singing "Some Day My Prints Will Come Home."

**MOST COMMON CAMSHOP QUERIES**—Can I put a telephoto lens on my folding Cartidge Premo? When is Kodachrome coming out in 116 size? Are you sure this developing tank won't let the light in? How much do your 11x14" color prints cost?

**CRIME IS ON THE RISE**—The old silent gang pictures used to have 16 frames per second; the modern talkies have 24!

**NURSERY RHYMES for MODERN TIMES**

Little Jack Horner  
Sat in the corner  
Reading his MINICAM.  
He read every page  
Feeling quite sage  
And said "What a smart guy I am!"

**FOR THE ECONOMICALLY INCLINED**—How about giving your exhausted hypo baths to couples celebrating their silver wedding anniversary?

**YOUR NOSE KNOWS!**

Using a sulfide toner  
Is an olfactory boner.

**WHAT'S IN A NAME?** Those red rubber bulbs you see in doctor's kits are called "Ear and Ulcer Syringes" but they're swell in a photographer's kit, too, for blowing dust and lint out of cameras, enlargers, and projectors.

**NOTHING HALF-WEIGH ABOUT HIM!** The fellow who set up his tripod on a truck-weighing platform believed in going in for photography on a big scale.

**GETTING ON IN THE WORLD**—A home-ly model gets on a man's nerves, but a pretty one gets on his pay roll.

**YES, LADY**, pan film can be used for photographing other things than faces.

**INFAMOUS LAST LINE**—"Oh, so you just heat the developer while its dissolving?"

**CINE SPLICES** are something one likes to make fast, fast.

**OUR PET OBSESSION**—Next to the fellow who says columns

to rhyme with volume,  
is the ones who say film  
to rhyme with Willum.

**THE HEIGHT OF EXTRAVAGANCE**—Photographing a Dalmation in Kodachrome.

**SAID ONE DARKROOM FLY TO THE OTHER** upon being bumped into the hypo jar—"You got me into this fix, now get me out of it!"

**SNAPPY SIMILE**—More exposures per minute than a burlesque show queen.

**THE HEIGHT OF CONFIDENCE**—Asking for an 8x10 enlargement of a head and shoulders from an 8mm movie frame.

**OTHER USES**

Self-timers—for releasing parachutes from model airplanes.

Glass graduates and stirring rods—for the amateur bartenders.

Old film—for starting fires with one match.

Art books—art books.

**INFAMOUS LAST LINE**—"Oh, so you don't focus on the enlarging paper?"

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x 4 panel prints  
in loose-leaf  
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x 2 1/4 rolls proc-  
essed and en-  
larged to 3 1/4 x 5  
panel prints in  
loose-leaf LEATH-  
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**KALART**





BEHIND THE

# NEWS CAMERA

By A. J. EZICKSON, Telephoto Picture Editor, Times-Wide World

**A** SALVO of salutes to Howard Clifford, photographer for the Tacoma, Wash., *News Tribune*, for his thrilling pictures of the collapse of the famous Narrows suspension bridge over Puget Sound. Clifford, who also doubles as a sports writer, was at his typewriter pounding out a routine story when first word of the imminent destruction of the bridge was flashed to the city desk by Leonard Coatsworth, a reporter for the paper, who had been trapped in his car when the center span first started giving way in a lusty gale. Clifford grabbed his camera and made a quick dash for the scene. He first made shots from the shore as the wind flayed the center span into a twisted ribbon, and had those films rushed back to his office. He then waited, camera in hand, against the possibility the bridge might collapse. Sensing a chance for more spectacular shots in case the bridge did give way, he worked his way up the approach to the bridge tower with the greatest difficulty, and from there took more pictures. Then suddenly as he was squinting into the ground glass of his camera, the span buckled and started to break in the center. He pressed his camera trigger and started to run. Finally he reached safety on shore and took a final shot as the entire center section of the bridge crumbled and dropped into the icy waters of the Sound. The spectacular shot of the bridge breaking apart was wired from Tacoma to all parts of the country and was given Page One display in most of the leading papers.

• **HERE AND THERE** . . . Ralph J. Hennings, South Bend, Ind., *Tribune* staffer, escaped serious injury when the plane in which he was returning from a Notre Dame football game crashed . . . the *Birmingham News* and *Ago-Herald* for the first time used carrier pigeons to fly in photographs of the Auburn-Mississippi football game. The pigeons are housed atop the *News* building . . . Peter Killian, staff photographer for *PM*, New York, obtained a series of photos aboard a Canadian convoy destroyer in the war zone, to which *PM* devoted 10 pages in one of its issues. Said Killian: "I had an appointment with a Commodore in the Royal Canadian Navy for a portrait. Afterward I asked if there was a chance to take me along as a passenger on his convoy destroyer. To my amazement he said all I had to do was to stay aboard for about ten minutes until they could hoist the gang plank."

• **THINGS** got dull in Akron, O., so Robert L. Coon, free-lancer, who has sold many a picture to Times, Wide World and the Cleveland Plain Dealer, went back to long-distance trucking. But the love of shutter-clicking was still there, and Coon took along his camera, three dozen films and his speed gun. On the way to New York, he stopped his truck long enough to snap some features, and on his arrival in Manhattan, stepped up to the Wide World offices, and sold them. Can't keep a good photog down.

• **THE NEWS** focusers covering the recent C.I.O. Convention at Atlantic City got the surprise of their lives when they saw one of their number leave their ranks, walk over to Philip Murray, the newly elected President, and give him a resounding kiss on his cheek. "Congratulations, dad," shouted the beaming photographer. He was Joseph Murray, the 21-year-old son of the C.I.O. chieftain, and is on the photographic staff of the *Pittsburgh Labor Press*.

• **NAZI** propagandists in South America have been intensifying their drive against American correspondents and photographers. Recently the German Ambassador to the Argentine, Edmundo von Thermann, by a wave of his hand caused police to arrest Ray Josephs, *PM's* special correspondent, and Maxwell F. Coplan, New York news photographer, while photographing his diplomatic swastika-decorated car in front of the German Embassy in Buenos Aires. Josephs was released less than an hour later, but Mr. Coplan was held almost three hours while police attempted to search his hotel room. He was finally freed and given his film with apologies but not before strong protests had been made by the American community and the local press had demanded to know by what right the Nazis were able to cause the detention. Police insisted they were "unable to refuse" the diplomatic request.

• **LENSMEN** better soft-pedal the word "shots" when within earshot of policemen. Leo Hoffman, New York Mirror staffer, spilled the word a bit too loudly when he stepped into a phone booth in a Bronx bar and grill to announce to his desk editor that he had just made a couple shots and was coming in. As



## CONTEST CALENDAR

Open to	Subjects	Prizes	For copy of rules, write to	Contest closes
Anyone in Greater New York.	Illustrations suitable for public health education.	10 Merchandise prizes.	Society for the Study of Syphilis, Room 329, 125 Worth St., New York City.	January 20
All.	Any print colored with Raygram Photo Colors.	46 Merchandise prizes.	Contest Editor, Raygram Corp., 425 Fourth Ave., New York City.	February 15
All.	Photographs of streamline train "Dixie Flagler".	First prize, \$25; second, \$15; third, \$10; ten \$1 prizes.	Chicago & Eastern Illinois R.R. Company, Room 760, 332 S. Michigan Ave., Chicago, Ill.	February 15

he left the booth a man in civvies approached him with gun in hand. Hoffman thought it was a plain stickup and was ready to hand over his camera, plates and wallet. "Say, buddy, what were those shots you were referrin' to," came the gruff voice of the man with pistol in hand. "Shots are pictured—new pictures I just made," Hoffman stammered, and wondered what it was all about, while he frenziedly pointed to his camera case. The gun dropped, the man smiled, and announced that he was a policeman off duty. An exchange of handshakes and drinks followed.

● IN RECOGNITION of his heroic rescue of a three-year-old baby from a burning home, Frank B. Johnston, head of the Photographic Department of the Philadelphia *Inquirer*, was presented with a special award—a handsome gold watch—by the newspaper. The pre-

sentation was made by Charles A. Tyler, president and general manager of The *Inquirer*, in connection with the monthly hero award ceremonies. The award came as a surprise to Johnston, who previously had been given a gold knife, chain and inscribed charm by the Press Photographers Association of Philadelphia in recognition of his rescue.

Johnston was on his way home in West Philadelphia one early morning when he was attracted by shouts in a blazing dwelling. From a second floor window Stephen Scales shouted for help, holding the baby, Stephen, Jr., in his arms. With the aid of another man, Johnston found a ladder in a nearby garage driveway. He mounted the ladder, propped against the blazing house, took the infant from the father's hands and carried it down the ladder to safety. A woman died in the blaze and seven others were rescued or managed to escape.

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## The Inside Cover "PIN WHEEL"

Toning, as commonly practiced, produces a print in which every value from delicate lights to deepest shadows are the same color (sepia, chalk-red, chocolate brown, blue, green, etc.). F. R. Altwater, Pittsburgh pictorialist and commercial photographer, uses toners more subtly, to add a second color to his prints, the deeper shadows remaining a rich warm black in his brown or red-toned prints. "Pin Wheel" is an example of this technique.

In regard to the method of toning used on the inside cover (which was a rich chalk red in the original), Mr. Altwater says:

"In this type of picture the highlights and middle tones are illuminated by the thing being photographed. In this instance, the welder's torch. These highlights and middle tones are the ones that require toning. The red tone is obtained by the action of Gold Chloride on a sulphur toned print."

The picture was first toned sepia in a hypo-alum toner or by the redevelopment toner method. The toning action was stopped when the highlights and halftones became brown.

### HYP-O-ALUM BATH

	Avoirdupois	Metric
Cold Water	22 oz.	700 cc.
Sodium Thiosulphate		

(Hypo) 4 oz. 120 gm.

Dissolve thoroughly and add the following solution:

Hot Water (about 160°F or 71°C)	5 oz.	160 cc.
Potassium Alum	1 oz.	30 gm.

Then add the following solution (including precipitate) slowly to the hypo-alum solution while stirring the latter rapidly:

Cold Water	1/4 oz.	16 cc.
Silver Nitrate, crystals	15 grains	1.05 gm.
Sodium Chloride (Table		

Salt) 15 grains 1.05 gm.

After combining above solutions:

Add water to make 32 oz. 1 liter

Note: The silver nitrate should be dissolved completely before adding the sodium chloride, and immediately afterward the solution containing the milky white precipitate should be added to the hypo-alum solution as directed above. The solution is milky white when correctly mixed.

For use, pour into a tray standing in a water bath and heat to 120°F. Prints will tone in 12 to 15 minutes. If boiling water is used for mixing the toning bath, or if the order of mixing is changed or if the hypo-alum bath is not stirred when adding the white precipitate,

the bath will turn a dirty gray or black. Never heat the bath higher than 130°F otherwise blistering, staining, and non-uniform toning will result.

The print was then washed and toned in the usual solution of Gold Chloride and Thiourea (thiocarbamide). Neblette gives a good formula:

Stock Solution A—	
Water .....	6 oz.
Gold Chloride .....	10 grains
Stock Solution B—	
Water .....	6 oz.
Thiocarbamide .....	15 grains
Stock Solution C—	
Citric Acid .....	65 grains
Water .....	6 oz.

For use take:

- 1 part of stock solution A
- 1 part of stock solution B
- 1 part of stock solution C
- 9 parts of water

The print tones in 15 to 25 minutes.

Another formula that works well is:

Ammonium Sulphocyanide .....	30 grains
Gold Chloride .....	2 grains
Water .....	4 oz.

When the desired tone is reached the print is rinsed and given a 2-minute bath in hypo containing the usual acid hardener. Then wash and dry.

The introduction of single-solution toners and color developers has stimulated renewed interest in this means of pepping up prints. (For a list of some of these toners and developers see page 17, this issue.)



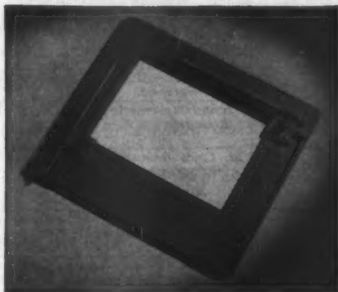
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## SALONS

Closing Date	Name of Salon	For Entry Blank, Write to	Number of Prints and Entry Fee	
January 18	Fourth Annual Salon, Bridgeton Camera Society and the Cohanzick Camera Club.	Graham Schofield, Bridgeton, New Jersey. (Open to all amateurs in New Jersey south of Trenton.)	4	.50
January 31	Sixth Annual Salon of Pictorial Photography.	E. A. Rosseter, P. O. Box 23, St. Petersburg, Fla.	4	\$1.00
February 1	Third Valley of the Sun Photographic Salon.	Victor R. Kiessling, Chairman, 107 North Fifth St., Phoenix, Ariz.	4	\$1.00
February 1	Eighth International Salon.	Ira W. Martin, Salon Director, 10 East 71st St., New York City.	4	\$1.00
February 3	Fifth Virginia Photographic Salon.	Marie Powell, 1714 Park Ave., Richmond, Va. (Open only to persons born or now residing in Virginia.)	8	25c per print, minimum
February 5	Third Annual Youngstown Photographic Salon.	Salon Committee, The Youngstown Camera Club, 17 N. Champion St., Youngstown, Ohio.	4	\$1.00
February 21	Fifth Modern Photography Exhibit.	Mary Jane McLean, Warthmore, Parkersburg, W. Va.	5	\$1.00
March 3	First Annual National Salon for Newspaper Subjects.	U. Joseph Brown, Salon Director, O-T Camera Club, 304 Oklahoman Bldg., Oklahoma City, Okla.	4	\$1.00
March 22	Third International Salon of Photography.	Salon Committee, Newport Camera Club, 185 Thames St., Newport, R. I.	4	\$1.00
April 1	Second International Pictorial Roundup.	Ben F. Marable, Business Manager, Box 151, Camera Club of Cheyenne, Cheyenne, Wyo.	4	\$1.00
April 6	St. Louis International Salon of Photography.	Salon Committee, St. Louis International Salon of Photography, c/o W. E. Chase, Room 500, Missouri Pacific Bldg., St. Louis, Mo.	4	\$1.00
April 11	Eighth International Milwaukee Salon of Photographic Art.	A. B. Bellinghausen, Chairman, Milwaukee Art Institute, 772 No. Jefferson St., Milwaukee, Wis.	4 6 Slides	\$1.00
April 16	Second Toledo International Salon of Photography.	Carl F. Reupsch, Salon Chairman, Toledo Museum of Art, Toledo, Ohio.	4	\$1.00

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## EXHIBITS AND LECTURES

See these events in your city this month

City	Street Address	Dates Open	Name of Exhibition
Albany, N. Y.	Albany Camera Club and Albany Hardware & Iron Company.	January 15.	Illustrated lecture on "Modern Flash Photography".
Auburn, N. Y.	Auburn Camera Club.	January 14.	Illustrated lecture on "Modern Flash Photography".
Boston, Mass.	New England Museum of Natural History, Main Hall, 234 Berkeley St.	December 17 to January 31; 9 a.m. to 4:30 p.m. on weekdays, 1 to 4:30 p.m. on Sundays.	Second Annual Boston International Salon of Nature Photography.
Bridgeton, N. J.	Feinstein Bldg.	January 27 to January 30; 2 p.m. to 10 p.m.	Fourth Annual Salon, Bridgeton Camera Society and the Cohanzyck Camera Club.
Des Moines, Ia.	Hall of Photography, Y.M.C.A., West Fourth at Keosauqua.	January 1 to January 22.	Sixth Annual Des Moines International Salon of Photography.
Elizabeth, N. J.	Union County Camera Club.	February 12.	Illustrated lecture on "Modern Flash Photography".
Los Angeles, Cal.	Los Angeles Museum, Exposition Park.	January 1 to January 31; 10 a.m. to 4 p.m. on weekdays; 2 to 9 p.m. on Sundays.	Twenty-Fourth Annual International Photographic Salon.
Minot, N. D.	Art Department, North Dakota Teachers College.	January 10 to January 25; 7 to 9 p.m. on weekdays, 3 to 5 p.m. on Sundays.	First Annual North Dakota Salon.
New York City	Riverdale Neighborhood House, 5521 Moshulu Ave.	December 26 to January 9; 9 a.m. to 8 p.m.	First Annual Salon, Riverdale Camera Club.
New York City	Hotel Taft, Grill Room, 7th Ave. at 50th St.	October 1 to January 15; 9 a.m. to 10 p.m.	Prize winning prints in Hotel Taft contest.
New York City	The Museum of Modern Art, 11 West 53rd St.	December 27 to January 11.	Exhibition of Fifty Photographs.
New York City	52 Vanderbilt Ave.	January 6 to January 24; 9 A.M. to 5:30 P.M.	Camera Studies of Children by Lynn Hughson.
Springfield, Mass.	Gallery of the Photopictorialists of Springfield.	January 1 to January 18.	The Springfield Salon (Third International).
Washington, D.C.	Smithsonian Institution.	January, 1941.	Fifth Annual 100-Print Travel Salon.



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## Exposure Meter Target

(Continued from page 49)

3 ft. away. Set the exposure-calculating dial for the light value indicated, and note the aperture opposite the 1/10-second mark. Now rotate the dial until the same aperture is opposite the 4/5-second mark . . . until the meter indicates 8 times the normal exposure indicated for the white paper. Substitute the gray card for the paper, and take a reading. The meter reading should be the same as that to which the "normal" arrow of the exposure-calculating dial is pointing.

Example: Using a Weston 650 meter, the reading from a sheet of white type-writer paper is 400, and the aperture opposite 1/10-second is f20. Rotating the dial until the f20 mark is opposite 4/5-second, the arrow points to 50, which should be the reading obtained in the same light with the gray card. Of course, you can use any other set of exposures, whose relation to each other is as 1 is to 8. Thus, 1/40-second and 1/5-second, or 1/8-second and 1-second.

Some photographers use a card having a gray tone that is not closely "calibrated" as described, and alter the filmspeed rating to match it. Thus one Kodachrome user has found that, by setting his Weston meter to a film speed of 10 instead of 12, to balance his gray card, he gets correct exposures on Type A Kodachrome.

If you can find it at an art store, the Schmincke gray poster color is just about right with respect to reflection factor. This comes in collapsible tubes, and is marked "Serie 26." It may be necessary to add a bit of lampblack or black water color to the paint, before it will give a close-enough reading.

Such water-color cards will give reasonable service if kept dry. For greater durability, you can use flat gray oil or casein paint.

● **IN DIM LIGHT**, a light grey or white card may be used to take the reading, and the brightness then compensated for. The exact reflection coefficient must be deter-

mined by trial for the target used. A piece of white cardboard may have a reflection coefficient of 8. This would mean that the white card reflects eight times as much light as an average subject.

Example: The exposure indicated by a meter reading of a white card is 1/200-second, at  $f/8$ . What exposure should be used for an average subject? Answer: Eight times 1/200, or 1/25-second. The lens opening remains unaltered.

If the shutter speed is to remain the same, then increase the lens opening proportionately. Increasing lens aperture 8 times is equal to three stops, or from  $f/8$  to  $f/2.8$ .

## Lenses Perform on "Light Trapeze"

(Continued from page 33)

end, and with the slits running all the way to that end. The open end is merely pressed against the white surface. Of course, the lamp cord may get in the way, but usually that doesn't matter.

The cap is made of metal and has narrow slits around its circumference. These are spaced about 10 degrees apart, and are an inch or so long. Among the materials suitable for such a cap are cylindrical aluminum boxes or tubes, and thin brass tubing such as that used by plumbers. The slots can be cut with a jeweler's saw having a fine blade. When the lamp is mounted through the board, the cap is made so that it will slip into a circular opening around the socket.

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carefully sawing circular curves, ellipses, parabolas, etc. from 1-in. wood and lining each curve with brightly-polished metal such as chromium plated brass or zinc. Tinned sheet iron can be used, but often its reflecting ability is poor. A chromium ferrotype plate will furnish material—if you don't mind cutting one up. Lens sections offer somewhat more difficulty. They can be fashioned from glass or transparent plastic. Old lenses might be cut in two across the middle, to provide half lenses that can be pressed against the board. Or a slot arrangement can be made so that whole lenses can be lowered into it until their axes coincide with the board surface.

## Resolutions for a Happy New Year

(Continued from page 65)

"That's really quite an order. But it's interesting because it completes the photographic cycle. You start out, as a kid, with a simple little camera and your only purpose is to get a recognizable picture of Butch or Pete or your pup. Then, as you get into photography a bit, you go nuts about the means to a picture. You load up on gadgets and study technique. Good thing, too. But it's a phase that must end sooner or later. Depends on how soon you really master the medium of photography. Then, when you really know what you're doing, you get back to a concentration of pictures as pictures."

\* \* \*

(Voice from upstairs: "Henry! It's eleven o'clock. I'm going to bed. Don't stay up all night.")

"Okay. I'll be up as soon as I wash these prints."

\* \* \*

"Guess that winds things up."

"There's one more resolution I could suggest."

"What?"

"Plan your darkroom work so that you start washing prints before it's so late."

"Good gawsh, fella. Now you are being an idealist. Leave something for me to resolve to next year."

"That's a laugh. . . . Boy, this water's cold."

## Shoot a One-Man Scenario

(Continued from page 53)

reference guide in future make-up.

If you want to combine your duties as cameraman with that of actor, equip your outfit with a remote control device and flexible cable to permit easy manipulation of the trigger, and step into your own personally filmed scenes. While more unique, this type of filming also requires more rehearsal, and there is always danger of wasted footage.

Lacey Harmon, member of the St. Paul Amateur Movie Makers Club and inventor of a wind-back for movie cameras, successfully prepared such a film recently with a remotely operated camera by shooting the adventures of father and son on a camping trip. Such scenes as packing the duffel, arriving at the camp site, setting up the tent, going fishing and preparing the meal are topped off by a fracas with a night-prowling bear (a properly draped bear rug turning the trick). Realistic sound effects on dual turntable added the final touch.

Scene record books are extremely helpful for beginning cinematographers in checking actual results against exposure, lighting and camera handling, but in scenario filming such a cine record is almost a necessity. This might be of the loose leaf type or spiral bound variety, with a number of ruled sheets. On each page letter a large heavy figure, ranging from 1 to 50 or 100, depending on the number of scenes in your script. Each page number corresponds to a scene number. Make room for such information as scene description, type of lighting, exposure, special angles and make-up. Sketch out roughly the position of the subject and camera in relation to the lights, and the distance of lights from subject.

Even Hollywood technicians approve this practice, which has proven exceedingly valuable where retakes must be made and filming errors checked.



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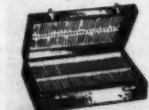
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## Cut-Out Calculator

(Continued from page 81)

of the finished picture is known. What will be the length? Or when the length is known, what will be the width?

(6) What fraction of the original area will be the area of a copy or reduction of known size?

The calculator consists of two logarithmic scales. The figures on the inner scale represent the dimensions of the *original* in inches, millimeters, or any other unit of measure. The figures on the outer scale represent the dimensions of the *enlargement, copy or reduction*.

To calculate proportions in enlarging:

(1) When width of finished picture is known:

Find the figure on the inner scale representing the *width* of original. Set this opposite the figure on outer scale representing the *width* of finished print, by moving inner disk to the *right* (in direction of arrow beside word "Enlarging"). Opposite the figure on inner scale representing *length* of original, read figure on outer scale denoting length of finished print.

*Example:* An area of a negative measuring 3 x 4" is to be enlarged to make a picture 10" wide. What will be the length? Set the figure 3 on inner scale opposite 10 on outer scale. Opposite 4 on inner scale, is 13 1/2 on the outer scale. This is the length of the picture and 11 x 14" paper would be big enough.

(2) How many times greater is the area of the enlargement than the area of the negative?

With the disk still set with 3 on the inner scale opposite 10 on the outer scale, find the figure on the outer scale that is opposite the figure 1 on the inner scale. In the above example it is 3-1/3. Find the same number, 3-1/3, on inner scale, and opposite it on outer scale read the number 11. The enlargement in this case is 11 times the *area* of the negative.

(3) How many times greater in *linear dimensions* is the enlargement? You've found that, in (2). The figure on the outer scale opposite the figure 1 (index) on the inner scale shows the linear magnification, in this case 3-1/3.

(4) What will be the dimensions of a three-times (or any other times) enlargement from a negative of given size?

In the example, it is desired to know the size of a three-times enlargement from a negative area measuring 3 x 4". Set the index (figure 1) of inner scale opposite the figure 3 on outer scale. Opposite the figure 3 on the inner scale read the width, 9" on the outer scale and opposite 4 on inner scale is the length, 12" on the outer scale.

To calculate proportions in *reducing or copying*—



Proceed as for enlarging, except that you move the disk to the *left* in the direction of arrow beside word "Reducing." The inner scale still represents the size of the *original*, and the outer scale the new size.

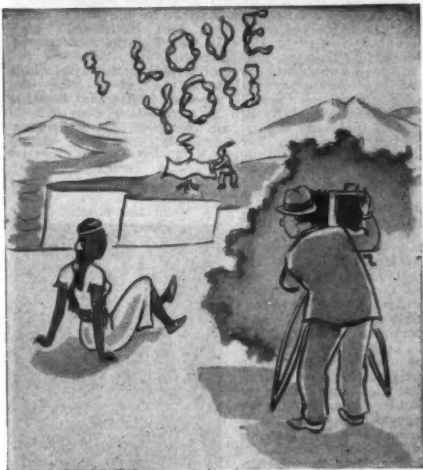
**Example:** A 10x13½" picture is to be copied so the image on the negative will be 3" wide. What will be the length of the image? Turn the disk to the left until the figure 10 on the inner scale is opposite 3 on the outer scale. Opposite 13½ on the inner scale is 4. Thus the copy will measure 3 x 4".

What will be the *linear* size of the copy in relation to the original? Opposite the index mark (1) of the outer scale read 3-1/3. This is the denominator of the fraction representing the copy area. Thus, 1/3-1/3 or 3/10. Also you can read the fraction (3/10) directly in this case at the figure 3 on the outer scale.

What will be the relative areas? Opposite the index mark (1) on the outer scale read 3-1/3. Opposite 3-1/3 on the outer scale read 11 on the inner scale. This is the denominator of the fraction representing the *area* of the copy with respect to the original, in this case 1/11.

To assemble the calculator: Cut the figure from the page, and separate the inner disk by cutting between the two circles that are close together. Paste both parts on thin, rather stiff cardboard or sheet celluloid, and pivot the smaller disk to the center of the larger one with a paper fastener or small, hollow rivet.

If you do not wish to cut the page, you can make a photographic copy of the calculator, printing it on smooth-matte, single-weight paper. (For information on cameraless copying of this calculator, see December, 1940, *MINICAM*, page 75).



"Won't the chief be surprised when he sees his love letters in court?"



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Argus A, \$8.00 Mod. C ..... 11.00  
Univex Mercor, F3.5 ..... 12.00  
Perfox 55, F3.5 latest ..... 31.00  
Dollina II, F3.5 cpl. ..... 29.00  
Contax I, Sonnar 1.5 ..... 95.00  
Contax III, Sonnar 1.5 ..... 189.00  
Argus C2, \$16.00; C 3 ..... 21.00

### REFLEX

Rolleiflex 1A F4.5 .....\$ 42.00  
Korelle Reflex, I, F3.5 ..... 48.00  
Argoflex F4.5, latest Contaflex, Sonnar F3.5 ..... 138.00  
Naxos Graflex II, F3.5 ..... 42.00  
Graflex B, F4.5 ..... 42.00  
Rolleiford IIA, F3.5 ..... 63.00  
Beler-Flux F3.5 ..... 44.00  
Rolleiflex, latest ..... 108.00  
Rolleiflex, 4 x 4, Tessar 3.5 ..... 98.00  
Pilot "q", F4.5, Special ..... 15.00  
Exacta B Xenon F3.5 ..... 110.00

300 MOVIE CAMERAS AND PROJECTORS

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# ★ NEWS ABOUT PHOTOGRAPHIC PRODUCTS

## Help For Amateur Photographers

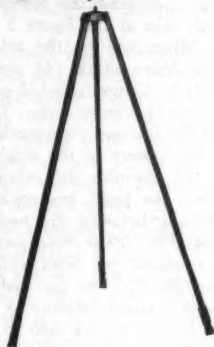
Amateur photographers with knotty problems to solve, or those who want suggestions on how to get the most from their new equipment received as Christmas gifts are invited to write: Harry Kaufman, Haber & Fink, 16 Warren St., New York City.

## Herbert George's Tripod

The "Rigid" Tripod (\$1.50) is of V-shaped channel steel construction, in two sections that open and close by a spring release. Maximum height is 44 1/2", and tripod closes to 24 1/2".

Non-spread legs have rubber tips and large head is claimed to be suitable for either still or motion picture cameras. Finish is chromium plating.

For further information, write: Herbert George Co., 617 Fulton St., Chicago, Illinois.



## Agfa's Infra-Red Roll Film

Infra-Red roll film is now supplied by Agfa Ansco in three sizes: (A-8: 40c; PB20: 45c; and B2: 45c). Agfa 35mm. Infra-Red is supplied in spools, cartridges, and bulk lengths.

New roll film is standard 8-exposure length, and is coated with an emulsion similar to the Agfa Ansco 35mm. Infra-Red film that won Hollywood's high technical honor: the Class II Award of the Academy of Motion Picture Arts and Sciences.

Only requirements for Infra-Red photography with this film are bright sunlight and a red or other blue extinction filter for the exposure. Average exposure with filter in sunlight is 1/25 second at f/5.6 to f/6.3.

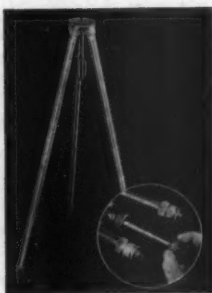
Film produces fine grain images, has moderately brilliant gradation, and anti-halo protection. Made by Agfa Ansco, Binghamton, N. Y.

## Leg-Loc Tripod

The Leg-Loc Tripod (\$8.95) consists of two sections of 31" brass tube, constructed to lock instantly by a turn of the leg. Two-section design is said to eliminate wobble and give maximum rigidity.

Tripod can be locked at any intermediate height. Screw-in reversible tips for indoor or outdoor photography provided. Weight of tripod is 4 lbs. Extends to 57" and closes to 30".

For further information write to the Reich-Hela Corp., 545 Fifth Ave., New York City.



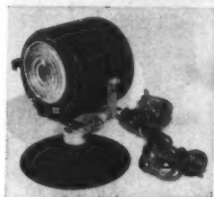
## Picture Markets

**Lawn and Garden Handbook**, Robert N. Farr, Editor, Fawcett Publications, 1501 Broadway, New York, N. Y., wants good photographs of informal gardens. Pictures must be 5 x 7" glossy prints, with good contrast and detail, black and white only. Names of all flowers and diagram showing arrangement of the planting must accompany each photograph. Submit immediately to above address.

**Illinois Central System**, J. V. Lanigan, Passenger Traffic Mgr., 135 East 11th Place, Chicago, Ill., pays \$10.00 each for photographs suitable for use on the front or back covers of the I. C. time-table. Write above address for list of appropriate subject matter.

## Academy Baby Spotlight

The Academy Baby Spotlight (\$6.95, complete as shown in illustration) takes 100, 150, or 200-watt T-8 lamps, has a 3" Fresnel lens, and can be changed from spot to flood light by push-pull adjustment lever. The light weighs 2 1/4 lbs., and is designed for attachment on tripod or regular lamp standard for use at high angles.



Lamphouse is said to be well ventilated, and design is claimed to eliminate "rings" and "hotspots" found in some types of spotlight.

For further information see dealer or write: Frank A. Emmet Co., 2707 West Pico Blvd., Los Angeles, Calif.

## Speed-O-Copy for Argus

A Speed-O-Copy ground glass focusing attachment for Argus C-2 and C-3 cameras (\$28.50) permits easy, rapid, critical ground glass focusing.

Eliminates adjustment for parallax, assures fine detail and composition, and given negative-size view of the subject. Used especially for reproduction, copy and small object work. Focuses to infinity.

Made by D. Paul Shull, 240 South Union Avenue, Los Angeles, California.

## Sunshade Filter Combination

Albert Filter and Sunshade Mounts (15 sizes to fit all cameras) slip over lens barrel. Threaded ring holds filter securely. Mounts made of satin chromium-plated brass.

Albert Filters of hand-blown, crucible colored sheet glass are optically ground and polished. Beveled edges prevent chipping. Filters are said to be checked for density in a factor meter, photo-electrically controlled within 5%. Filters come in three sizes and 14 colors.

Albert Sunshades of black Tenite screw on threaded filter mounts. Made by Albert Specialty Co., 231 S. Green St., Chicago, Ill.



## Ingento Film Pack Adapters

Ingento Film Pack Adapters in sizes from 2 1/4 x 3 1/4" to 4 x 5" (prices from \$3.00 to \$3.50) are designed to fit Speed Graphic, Watson, Eastman and Korona cameras.

All-metal light trap and precision construction is claimed to suit these adapters for use with high speed films.

For further information write: Burke & James, Inc., 223 W. Madison Ave., Chicago, Ill.

## This month's CAMERA HIGHLIGHTS at ABE COHEN'S EXCHANGE

### 35MM CAMERAS

Argus Model A F4.5 Argus.....	\$ 4.50
Kodak Bantam F6.3.....	5.00
Kodak "35" F5.6 K. A. Kodex.....	9.95
Dollina O F4.5 Vario.....	12.50
Wirgin F4.5 Wirgin. Vario.....	12.50
Univex Mercury F3.5 Tricolor F. P.....	12.50
Perflex 44 F3.5 case F. P.....	15.50
Perflex 55 F3.5 Scienlar F. P.....	32.50
Leica Model II F3.5 Elmar F. P.....	47.50
Robot I F2.8 Tessar.....	59.50

### 1/2 V.P. CAMERAS

Detroit Model G F4.5.....	\$ 5.45
Wirgin F2.9 Trioplan, Pronto.....	10.00
Foth Derby F3.5 Foth, F. P.....	12.00
Dolly F3.5 Tessar, C.....	22.50
Kodak Pupille F2 Xenon, C.....	32.50

### 1/2-120 and 2 1/4 x 2 1/4 CAMERAS

Dolly (both sizes) F3.5 Corygon, C.....	\$14.50
Imperial 1 1/4 x 2 1/4 F4.5 Vidanar, C.....	19.50
Welta Perle 1 1/4 x 2 1/4 F2.9 Cassar, C.....	32.50
620 Kodak Duo 1 1/4 x 2 1/4 F3.5 K. A., C. R.....	34.50

### MISCELLANEOUS ROLL FILM CAMERAS

Voigtlander Bessa 2 1/4 x 3 1/4 F6.3	
Voigtar.....	\$ 6.50
Kodak Jr. 2 1/4 x 3 1/4 F6.3 K. A. Kodon.....	9.50
Balda 2 1/4 x 3 1/4 F3.8 Trioplan, C.....	22.50
Isacette "E" 2 1/4 x 3 1/4, case F4.5	
C. Z., Compur.....	45.00
Agfa Planar 2 1/4 x 4 1/4 F14. Antar.....	6.50
Kodak Sr. 616 2 1/4 x 4 1/4 Bimat Kodex.....	9.50
Kodak Ser. III F6.3 K. A. Diomatic.....	8.50
Zeiss Nixe B 3 1/4 x 5 1/4 F4.5 C. Z., C.....	42.50

### FILM PACK AND PLATE CAMERAS

Zeiss 9 x 12cm S. E. F4.5 Compound.....	\$17.00
Kawee 9 x 12cm D. E. F4.5 Laack, C.....	19.50
Imperial 9 x 12cm D. E. F4.5 Anast.	
Rulex.....	22.50
Plaubel 9 x 12cm D. E. F4.2 C.....	27.50
Ernmann 9 x 12cm D. E. F4.5 Tessar	
Chronos.....	34.50
Ihagee Duplex 9 x 12 D. E. F4.5	
Xenar, C.....	37.50
Watson 9 x 12cm D. E. F4.5 Dominar,	
Zeiss.....	37.50
Maximar "B" 9 x 12cm D. E. F4.5	
Tess., C.....	49.50

### REFLEX AND REFLECTING TYPE CAMERAS

Natl. Graflex Ser. I 2 1/4 x 2 1/4	
F3.5 B&L F. P.....	\$37.50
Auto Rolleiflex 2 1/4 x 2 1/4, case	
F3.5 C. Z. Compur Rapid.....	115.00
R. B. Graflex Ser. B 2 1/4 x 3 1/4	
F4.5 K. A. F. P.....	45.00
R. B. Graflex B 1/4 x 4 1/4, Tele.	
F4.5 B&L F. P.....	55.00
Graflex Ser. D. 3 1/4 x 4 1/4	
F3.4 Aldis, F. P.....	79.50
Ihagee Folding Reflex 9 x 12cm R. B.	
F3.5 C. Z. F. P.....	59.50
R. B. Graflex Ser. B. 4 x 5	
F4.5 K. A. F. P.....	55.00

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Leitz 50mm, F2.8 Thambar . . . \$9.50  
Contax 35mm, F4.5 Orthonor \$4.50  
Contax 50mm, F1.5 Sonnar . . . \$9.50  
Contax 85mm, F4.5 Tritor . . . \$9.50  
Flaubert, Tele. Makina 190mm  
F4.8 for Makina 11s. . . . . \$9.50

### PLATE & FILM PACK CAMERAS

6x9 Linhof Technika, F4.5 Tessar Kalart Range  
Finder . . . . . \$189.50  
Ox12 Kodak Reconnar 33 F4.5 . . . . . 39.50  
Ox12 Zeiss Maximar II, F4.5 Tessar . . . . . 44.50  
National Graphic Series 11 F2.5 . . . . . 46.50  
Speed Graphic 2 1/4x3 1/4 Tessar 4.5 Kalart Range  
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## Federal Enlarger Model 331

The Federal Enlarger Model No. 331 (\$34.50, with 3 1/2" f6.3 anastigmat and calibrated swivel head for horizontal or vertical projection and distortion correction takes negatives from 35mm. to 2 1/4x3 1/4". Its negative pressure release permits negative to be moved in machine without danger of scratching.

Double extension bellows permits making 1 to 1 projection prints and up to 8 times enlargements with 3 1/2" lens. With 2" lens, 18-time enlargements can be made.

Provision for attaching auxiliary filters used with variable-contrast papers (Defender Varigam, etc.) and for three-color separation work. Has 4 1/2" condenser lens, parabolic reflector, and a light distribution plate used with opal enlarging lamp for brilliant, even illumination. Ventilated lamp housing is finished in two-tone baked enamel.

Spring counter balance gives finger-touch control of up-and-down movement of lamphouse. Enlarger is mounted on a 36" steel post, and baseboard is 16x22".

Accessories include: red filter, opal enlarging lamp, four masks, and illustrated instruction booklet.

For information on the above and No. 347 (same as above, but with f4.5 lens at \$42.50) and No. 250 (same as No. 347 plus double condenser lens system and pair of removable film holders at \$49.50), write: Federal Stamping & Engineering Corp., 24 Lafayette St., Brooklyn, N. Y.



## Reco Gray Scaler



The Reco Precision Gray Scaler (50c postpaid) consists of an opaque celluloid rectangle on which time intervals are numbered. This rectangle is fitted into a transparent celluloid channel on which transparent relative exposure numbers are indicated (shown on the left side in the illustration).

To use the Gray Scaler, 1 1/4x6" strips are cut from photographic paper to be printed. A strip is placed in the channel carrier beneath the opaque celluloid mask. The paper is then exposed for the various time intervals indicated, starting with the one-minute exposure above the two white pointers (at bottom of the channel).

Scaler provides an excellent means for determining comparative contrasts of printing papers, and is useful with the Enlarg-O-meter, made by the same firm.

Made by the Research Engineering Co., 312 S. Michigan Ave., Chicago, Ill.

## Fine Grain Developer

Eagle Fine Grain Developer is said to have excellent keeping qualities and not to require additional exposure. Grain size is described as "ultra-fine."

Packed in tubes that make 8 oz. of solution, each tube developing 4 rolls of 35mm. film or equivalent. Box of 5 tubes is 60c.

For further information write: Eagle Photo Supply Co., 55 East 9th St., New York City.



### Chrome Ferrotypes Plates

Claimed to reduce the dangers of prints sticking to the plates when squeezed for high gloss, the Apollo "mirror-finish" chrome plate (10x14" size, 65c; 14x20" size, \$1.40, other sizes priced proportionately) is said to average lower in cost than ordinary black tins, because it lasts considerably longer.

For further information see dealer or write: Apollo Metal Works, Clearing District, Chicago, Ill.

### Roto Print Dryer

The Weaco "Deluxe" Roto Print Dryer (\$14.50, complete) has a rubber roller for use in squeezing glossy prints against the drying surface. Can also be used for squeezing surface moisture out of matte prints to ensure quicker and more even drying.

Drying surface is 12x18" chromium plate, and heating element uses only 180 watts on 115 volt line, either AC or DC. Element is said to be guaranteed for 5 years.

Squeegee roller (\$3.95) may be bought separately for attachment to Senior - Commercial Weaco Print Dryer or the Standard model.

At dealers or write: Warren Electric Appliance Co., Warren, Pa.



### Twin Surface Print Dryer

The Fedco Twin-Surface Print Dryer (\$6.95) is built of heavy gauge electrically-welded steel, and takes ferrotypes plates up to 11x14" size.

Takes eight 5x7" or two 11x14" prints at one time. Element is said to concentrate heat on platen, leaving rest of dryer cool. About 200 watts on 115 volt AC or DC line are used.

Made by Fedco Products, 721 Broadway, New York City.



### Enlarging Meter

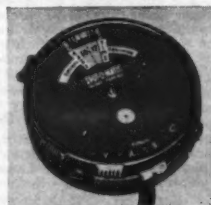
The Spot-O-Matic Enlarging Meter (\$5.95) is said to indicate automatically whether a negative is under- or over-developed, and tells in one reading the correct contrast of paper and required printing exposure time for any negative.

Illuminated exposure figures make the instrument easy to read in dim light. Type of spot used on meter is said to be permanent.

Said to be originally designed for precise measurement of exposure during production of color prints, the meter has built-in tri-color filters for use in determining exposures for separation negatives.

The Spot-O-Matic Enlarging Meter operates on either AC or DC current. Readings are obtained only 11/16" from the focal plane of the enlarger. Separate safelight control automatically switches off safelight when meter is turned on for operation. Made by Kinnard Co., 445 Lake Shore Drive, Chicago, Ill.

Distributed in the middle west by Norman Willets Co., 318 W. Washington St., Chicago, Ill. West coast distributor, Seemans, Inc., 6628 Santa Monica Boulevard, Hollywood, Calif.



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Leica G Summar F.2.....	115.00
Leica IIIB with Summarit F.2.....	184.50
Contax I, Zeiss Tessar F.2.8, etc.....	64.50
1/4 Vest Pocket Zeiss Ikonta, Tessar F.3.5.....	24.50
Contax II, Sonnar F.2.....	139.50
Contax III, Sonnar F.1.5.....	179.50
Exakta B, Primoplan F.1.9.....	114.50
6 1/2x9 Linhof Technika- Zeiss Tessar F.4.5 Kalar.....	
Rangefinder, latest model.....	189.50
Zeiss Super Ikonta B, Tessar F.2.8.....	105.00
Contax III, Sonnar F.2.....	164.50
Contax II, Sonnar F.1.5.....	164.50
90mm. Elmar F.4 telephoto for Leica.....	62.50
Argus C.2 cpd. rangefinder, F.3.5.....	17.50
35mm. Weltini, latest, Xenon F.2.....	69.50
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16mm. Bolex H-16, Dallmeyer F.1.5.....	179.50
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Send 5c stamps or coin to cover mailing charges.

### Free Projection-Test Kit

Amateur moving picture enthusiasts, interested in making a test of the quality of their projection can obtain a Free Test Kit. Kit has a  $5 \times 7$ " sample of a "Wide Angle Crystal Beaded Screen" and a chart for making the test.

For the kit write to: Motion Picture Screen and Accessories Co., Inc., 351 West 52nd Street, New York City.

### DuPont Movie Film

Superior Pan (Reversal) 16mm. motion picture film (\$6.00 a 100-ft. roll, processing at Farlin, N. J., included) has tentative Weston speed ratings of 100 in daylight and 80 in Mazda.

Complete removal of the non-halation backing in processing is said to give added brilliance to projected image. Made by the DuPont Film Mfg. Corp., 9 Rockefeller Plaza, New York City.

### Sound Recording for Home Movies

The Wilcox-Gay Dual-Speed Recordio permits high-fidelity home recording of 12 minutes of continuous recording on a 10" disk.

Diagrams showing correct placement of instruments, singers, or speakers, are available from the manufacturer. For this service and further details write: Wilcox-Gay Corp., Charlotte, Mich.

### Motion Picture Equipment Rental Service

Irving and Sam Browning, well-known professionally to the major film companies for their work in motion pictures, announce a rental and advisory service for producers of motion pictures.

Lighting equipment for flood lamps and for mazda lamps up to 5000-watts, sound and silent cameras (either motor or spring driven) with 100 to 400-ft. film chambers, and projection and editing equipment are rented.

Rentals are confined to New York City and vicinity. For further information write: The Camera Mart, Inc., 70 W. 45th St., New York City.

### B & H Disc Recorder

The Filmosound Recorder and Record Player is complete in its case (without amplifier) plugging directly into the amplifier of the Filmosound projector.

Depth of cut made by crystal cutting head when recording is said to be adjustable to different types of record blanks and recording needles. Volume level indicator permits correct modulation of recording volume during cutting of record.

For further information write: Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill.

### Krieger-O-Tone Color Kit

The complete set of imbibition dyes in the Krieger-O-Tone Color Kit (\$4.50, prepaid anywhere in the U. S.) contains enough chemicals and dyes to make one gallon of working solution of each color. Order through dealers or directly from the manufacturer: Krieger Color and Chemical Co., 6531 Santa Monica Blvd., Hollywood, Calif.

### Free Lecture Demonstrations

Starting early in January, Fotoshop will conduct a series of free lecture demonstrations on photography. John Hutchins is one of the announced speakers. For complete details and schedule write: Fotoshop, Inc., 18 East 42nd St., New York City.

### NEXT MONTH IN MINICAM

MISTAKES I HAVE MADE, or "Now It Can Be Told", by John Hutchins, A. R. P. S.

"If ignorance is bliss, I certainly was snappy when I took my first pictures," he says. In describing the rocky road to success, he tells about the mistakes he made and how he profited from them.

## Booklets and Catalogs

**Fotoshop Almanac Catalog for 1941** (200 pages, 25c) contains articles on flash and color photography and features on the use of filters, movie equipment, and darkroom equipment. Six pages of formulas are included. Catalog section constitutes a buyer's guide to latest photographic equipment. The 25c price on catalog is refunded on any \$2.00 purchase. For copy write: Fotoshop, Inc., 18 East 42nd St., New York City.

**Filmsound Conversion Booklet** (Free) gives complete details on modernizing Filmsound Models Nos. 120, 138, 130, 142, and the first Filmoarcs. Features of Current models are listed and priced. Write: Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill.

**Make Color Prints With Toners** (Free) by J. Victor Mansfield, Ph. D., discusses the use of single-solution toners in converting black and white prints into brilliant colored prints. Write: Mansfield Photo Research Laboratories, Inc., 701 S. LaSalle St., Chicago, Ill.

**Agfa Darkroom Plans** (Free) gives diagrams for darkrooms of various sizes, with practical discussion of location of the darkroom, construction of walls and sinks, electric wiring, painting, cabinet construction, ventilation, etc. Write: Agfa Ansco, Binghamton, N. Y.

**Making and Showing Talking Pictures** (Free) gives complete instructions for production of sound movies for exhibition at home. Write: Presto Recording Corp., 242 W. 35th St., New York, N. Y.

**Chromax-Dyeset System** (Free) describes color printing by this method that is said to combine the simplicity and ease of manipulation of Wash-off Relief with the excellence of flesh tone and delicate gradation of carbro. Write: Fotoshop, Inc., 18 E. 42nd St., New York, N. Y.

**Post Pictures, Vol. 3, 1941** (Free) lists 16mm. sound subjects covering fields of drama, comedy, education, etc. Some subjects also available in silent versions. Write: Post Pictures Corp., 723 Seventh Ave., New York, N. Y.

**Making Up For The Camera—Simplified** (Free to Sec-Simplified Makeup For Color Film) (retailers of Camera Clubs) give full information about use of makeup when taking black and white and color portraits. Write: Miner's, Inc., 12 E. 12th St., New York, N. Y.

**Henry Herbert's Bulletin of Accessories** (Free) lists bargains in photographic equipment, accessories, camera cases, filters and lens attachments, etc. Write: Henry Herbert, 483 Fifth Avenue, New York, N. Y.

**DuPont Miniature Camera Films** (Free) describes DuPont's five new 35mm. films and presents data on their characteristics and how to process them. See local dealer or write: DuPont Film Mfg. Corp., Inc., 9 Rockefeller Plaza, New York, N. Y.

**Short Cut to Color** (25c) explains several tried and proven methods for making separation negatives, reliefs and imbibition prints with Krieger-O-Tone Tri-Color Dyes. At dealers or from: Western Photo Distributors, 1010½ S. Olive St., Los Angeles, Calif.

**Victor Lighting Equipment and Its Uses** (Free) contains lighting diagrams for black and white and color photography, exposure table, and also lists flash and flood reflectors and accessories added to Victor line. For copy write: James H. Smith & Sons Corp., Lake and Colfax Sts., Griffith, Ind.

**Outline of Modern Flash Photography** by Karl A. Barleben, F.R.P.S. (2nd edition, 10c) includes several illustrations not appearing in the first edition and minor changes in the text. At camera shops or direct from Goodspeed, Inc., 220 Fifth Ave., New York City.

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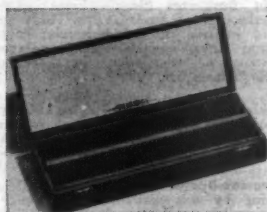
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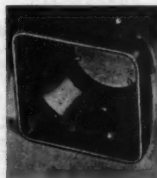
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## Book Reviews

**COMPLETE INTRODUCTION TO PHOTOGRAPHY.** By J. Harris Gable. 270 pages, illustrated, 6 x 8 1/2 inches. Harper & Brothers, Publishers. Price \$3.

This book offers the serious beginner systematic instruction and is easily the equivalent of a course in a school of photography.

Essential information on the meaning of technical terms and the theory of the lens, the camera, types of cameras, film and other photographic tools is supplied in introductory chapters.

The book shows how to photograph various subjects, as well as how to develop, print and enlarge pictures for every purpose. A laboratory manual is at the back of the book and numerous diagrams, sketches, and halftone plates illustrate the text.

### JIMMY HARE—NEWS PHOTOGRAPHER.

By Cecil Carnes. 304 pages, illustrated, 6 1/2 x 9 1/2 inches. The Macmillan Company, publishers. Price, \$3.

This book records the adventures of Jimmy Hare, the first news cameraman to gain an international reputation. He began taking pictures seventy years ago, in the days of photographic wet plates. Since that time he has traveled a million miles to get news photographs and has seen more battles than any living general. His story is one of the most exciting yet told in an era of war, conflict and unbelievable stress.

### THIS IS THE WAY WE BUILD A HOUSE

by Creighton Peet. 126 pages, 8 1/4 by 11 inches, 132 illustrations. Henry Holt and Co., publishers. \$2.00.

This is complete information for the layman on how a house is built, designed for children, but also informative for grown-ups. Peet's illustrations show skill and training. The book is a progression of successive shots taken as the house was built, from cellar to housewarming stage, each photograph selected for its rightness in story and visual relationship to its near neighbors. Peet has used child models for his thread of narrative. His success in keeping them completely natural adds to the usefulness of the book as guide and spur to amateurs bent on recording similar subjects.

**UNIVERSAL PHOTO ALMANAC.** Edited by Thomas O. Sheckell. 284 pages. Illustrated. Falk Publishing Co., Inc. Price, \$1.

This photographic annual contains more than a dozen articles, as well as a market guide and



bibliography. The articles include, among others, the following subjects: color photography, making home movies, pictorial photography, free-lancing, infra-red, figure portraiture, photographic light sources, condenser-type enlargers, and high-speed photography.

The Market Guide lists over a thousand magazines, newspapers, periodicals and syndicates that are in the market for photographs. Includes their specific requirements, prices paid, etc.

# MAKING YOUR PHOTOGRAPHS EFFECTIVE. By J. A. Lucas and Beverly Dudley. Illustrated. McGraw-Hill Book Company, Inc. Price, \$5.

This book is intended as a practical working manual for the professional and amateur photographer. It contains chapters on the fundamental processes of photography, numerous hints, suggestions, how-to-do-it ideas, and examples which the photographer can apply directly in his own professional work. The examples are taken from actual experience and represent a wide range of problems encountered in commercial photography.

In addition to chapters on equipment and on developing and print making, the following subjects are also included: filters and polarizing screens, pointers on various branches of photography, industrial photography, tricks of the trade, copying and recording, and lantern slides.

# THE GOLDEN THROG, a book about bees by Edwin Way Teale. 7x10". Illustrated. Dodd, Mead & Company. \$3.00.

Edwin Way Teale became famous almost overnight, with the publication of his book "Grassroot Jungles," as a foremost writer on insects. Now he turns from the whole field of insects to one particular family—the bees, which of all living things have most in common with man. Mr. Teale is as much a photographer as an author and the book is illustrated with seventy-four of his own pictures. There is a separate paragraph on "How To Photograph Insects."

# KODAK REFERENCE HANDBOOK. 380 pages, loose-leaf. 7 1/4 x 9 inches. Illustrated. Indexed. Eastman Kodak Company. Price \$2.75.

This new book contains up to date reference material on Eastman Kodak equipment and products. The book is profusely illustrated and all data is in accordance with the latest findings of the Kodak Research Laboratories. There are ten sections covering Kodak Lenses, Kodak Films (black-and-white), Filters, Kodachrome, Eastman Photographic Papers, Darkroom Design, Development and Fixation, Formulas, Copying and Microfilming, and Slides and Transparencies. This book not only is a complete reference to Kodak products, but also is a textbook on photography of value to beginners and experienced photographers alike.

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One side of the mirror has the ordinary reflecting surface and the opposite side a magnifying mirror. For table top photography in artificial light, the magnifying side of the mirror may be used as a "spotlight" as it reflects a small, intense circle of light.—George Carlson, Chicago, Ill.



### Trimming-Board Stops

Cutting uniform smaller pieces of paper or cardboard from larger sheets on a trimming board can be speeded by using a set of stops like those shown. The arrangement was made primarily for cutting 8x10" photographic paper into 4x5" sheets in the dark-room, where most of the adjusting is done by touch.

The stops consist of a removable brass peg inserted into a hole bored in the board, and a strip of adhesive tape placed between the peg and the knife. The longer dimensions of the smaller sheets are gauged first by placing



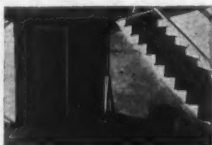
the end of the large sheet against the peg and making the cut, the sheet straddling the adhesive tape.

For shorter dimension of the small sheets, the tape is a stop for the paper's edge. Make a peg hole for each different sheet length frequently cut; the tape is quickly readjusted for new widths.—Walter E. Burton.

### Arranging a Home Basement Studio

A basement corner will make a satisfactory studio for the amateur who wants to make portraits of the family and friends without

disarranging the house to get a suitable background. The space under the cellar stairs, shown here with cement floor, unfinished walls and ceilings was remodeled for this purpose at small expense.



To provide a dark background a linoleum rug, a "second", was purchased for less than the same amount of background cloth would have cost. That it was imperfect made no difference as the imperfection was in the pattern of the rug and this was placed next to the wall. The linoleum rug securely fastened to the darkroom wall makes an ideal background as it is neutral in color; props can easily be arranged in front of it. When necessary to use a light background the wall underneath the stairs is used.



This shows the "portrait corner" in use.

The one-piece linoleum rug makes a "jointless" or "seamless" background, which is another big advantage. For extremely light backgrounds, a 4x6 ft. piece of wall board painted light gray or light grayish green can be moved into position. This will be big enough for half-length portraits.—Ray Kershner.



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E. K. Panatomic X

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ALL-METAL  
PROJECTION EASEL

Insert paper from end.  
No lifting or adjusting  
of border clamps. Fin-  
ished in light gray  
baked enamel. You fo-  
cus right on the easel.



NO  
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NECESSARY

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## Germain Fine-Grain Developer

Morris Germain, A.R.P.S., teacher of photography and Technical Director of Penn Camera Exchange, New York City, recommends a formula for negatives that is relatively simple and easy to compound.

Formula Avoirdupois Metric

Water (125°F or 52°C) .32 oz. 1000 cc.

Metol . . . . . ¼ oz. 7 gm.

Sodium Sulfite . . . . . 2½ oz. 70 gm.

Paraphenylene-Diamine

(base) . . . . . ¼ oz. 7 gm.

Glycin . . . . . ¼ oz. 7 gm.

Dissolve the chemicals in distilled water in the order listed. Use without dilution.

DEVELOPING TIMES (at 65°F)

Slow Films (Weston Daylight rating of 50 or less) . . . . . 8 to 10 min.

Fast Films (Weston Daylight rating over 50) . . . . . 12 to 15 min.

It is a good idea to filter the developer after compounding and again each time before use. This insures against "pin holes" from foreign matter or normal precipitates in the solution.

For softer negatives, dilute the developer as follows:

Germain Fine Grain Developer . . . 1 part

Distilled Water . . . . . 1 part

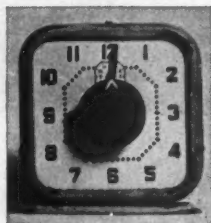
NOTE: Increase developing time 50% when using this diluted developer.

For replenisher use the original formula. 32 oz. of the undiluted formula is said to develop 12 to 18 5-foot rolls of 35mm. film or its equivalent in area. No extra compensation in exposure is required for rolls developed after the first. The developer is reported to have good keeping qualities.

Since with use the solution's liquid volume diminishes more quickly than its energy, it can be used "to the last drop" as long as enough quantity remains to cover the films.

## Any Clock a Timer

A rubber suction cup, bought at any hardware store, makes a timing indicator that fastens on the crystal of the darkroom clock. A white arrow is painted on the cup which is affixed to the face of a clock as in the illustration.



The stripe designates the position the minute hand will reach when the proper time has elapsed.—Loel T. Beggs.



# CAMERA CLUB

— NEWS AND IDEAS —

## NEW PROGRAM IDEAS:

A model in formal evening dress was used by a local portrait photographer to demonstrate portrait lighting, from head to full figure, using various lighting arrangements.

—The Glenwood Camera Club, Philadelphia.

If the location of your club makes it difficult to arrange a series of talks by prominent speakers, why not schedule a recorded program?

Ten leading pictorialists recorded a brief account of the problems they had to solve in producing their outstanding pictures. These recordings were sent to the Lansing, Mich., Camera Club, along with the prints discussed. As the members looked over the prints the recorded talks were played.

Mr. Wilcox, President of the Wilcox-Gay Corp., manufacturers of Recordio home recording units, and a member of the club, made the plans and arrangements for the meeting. Recordings were arranged through the Wilcox-Gay dealers in the home city of each photographer.

Private recording facilities are now available in many cities, and other clubs will find this method of presentation valuable and instructive. In connection with traveling exhibits, this device would add greatly to the understanding with which gallery visitors looked at the pictures.

—Lansing Camera Club, Lansing, Mich.

Advertise your club meetings with photographic posters and postcards. Camera Stores, the local library, and store windows in the business section are good locations for the posters. A picture of the principal speaker, or a copy of an outstanding print from the current exhibition make good subjects for the postcards.

All the large paper companies coat both contact and enlarging emulsions in either glossy or semi-matte surface on double-weight postcard stock, with spaces for address and message neatly printed on the back.

—Knoxville Shutterbugs Club,  
Knoxville Tenn.

Devote a meeting to an exhibition of work by club members, each one bringing "My Favorite Picture." Each exhibitor tells how his was taken, why it was selected as his favorite, and any interesting stories connected with making it.

—Albany Camera Club, Albany, N. Y.

## A NEW, SUPERIOR 35 MM SERVICE!

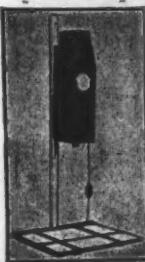
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Reloads for 36 exposures. . . .25  
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Sixteen exp. No. 127 roll. . .50  
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1315 Michigan Avenue Dept. 1941 Chicago, Illinois



## Shooting the Cover

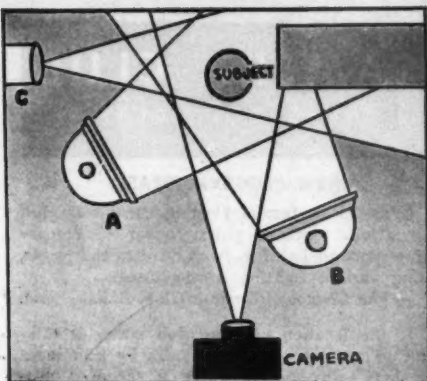
THE cover photograph was arranged as a composition in blue and red. The background, a poster advertising a winter resort, was selected to balance the blue of the girl's mittens with the upper portion of the picture.



The picture was taken on Type B Kodachrome, at  $\frac{1}{250}$  second, f8, by Albert K. Wittmer, chief photographer at the Eastman Kodak Laboratories.

For lighting the photograph, three lights altogether were used: two flood lights with 3200°K. lamps with soft white reflectors and spun glass for diffusers, and one 500-watt spot light, diffused.

As shown in the diagram, the flood light (A) was used for modelling light. In order to get sufficient exposure under the parka, the light was used at eye-level of the subject.

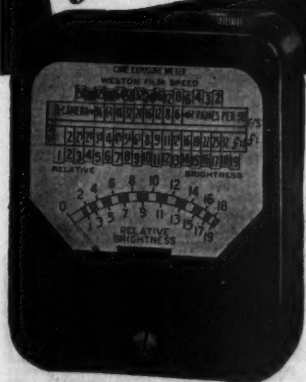


The second light (B) was used to lighten the shadow side. This light was about 5 feet away from the subject. One diffuser was used over the modelling light, and two diffusers over the shadow light. The purpose of the spot light (C) was to kill the shadow effect produced by light (B) and also to lighten the side of the face toward the background. The lighting was held fairly flat, the brightness range between the highlights and shadows not exceeding a ratio of 1:3.

For the photographer's story of the second cover picture (on page 2), see page 90.

**GOOD NEWS**  
*for Ciné Fans!*

THE NEW, INEXPENSIVE  
**WESTON**  
*Ciné* EXPOSURE METER



For your Xmas ciné camera, here's just the meter you want... one that will enable you to get every picture exposed with "on-the-dot" accuracy, *right from the start*. It's a compact, "pocket-size" meter, extremely simple to use; and it's built by WESTON... *your best assurance of dependability and long life*. It can be used with all types of movie cameras, and all film, including color. It is quickly "pre-set" for emulsion speed, frames-per-second and type of camera, and always left that way unless a different film or camera speed is used. Thus it is virtually instantaneous in use... with no calculations or adjustments to make while shooting. The price is only \$15.50. Get one at your dealer's today, and enjoy good movie-making all through the years. Literature on request. Weston Electrical Instrument Corporation, 649 Frelinghuysen Avenue, Newark, New Jersey.

